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PHASE TWO OF TWO PHASE DESIGN/BUILD SUBMITTAL PROCEDURE

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APPENDIX 'D’

Sustainable Project Rating Tool (SPiRiT) / SPiRiT Requirement and Summary Table

Sustainable Project Rating Tool (SPiRiT)

Version 1.4.1

U. S. Army Corps of Engineers
U. S. Army Assistant Chief of Staff for Installation Management

June 2002

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Content

NOTES

1) This Sustainable Project Rating Tool (SPiRiT) is derived from The U. S. Green Building Council LEED 2.0 (Leadership in Energy and Environmental Design) Green Building Rating System™.

2) The SPiRiT numbering scheme parallels, but does not match LEED 2.0. LEED does not number major sections, which it calls 'Credit Categories,' ex. 'Sustainable Sites,' rather it numbers criteria or 'credits' within each major section. SPiRiT credit numbers match those of LEED where there is a 1:1 comparison. Where additional credits have been added they fall at the end of major sections.

3) The SPiRiT Credits all follow the format: Intent, Requirement and Technologies/Strategies.

Intent: A statement of the primary goal for the credit;
Requirement: Quantifiable conditions necessary to achieve stated intent;
Technologies/Strategies: Suggested technologies, strategies and referenced guidance on the means to achieve identified requirements.

4) Projects are evaluated for each SPiRiT credit which are either 'Prerequisites' or result in a point score:

Prerequisites: These credits are a statement of minimum requirements and must be met. No further points will be awarded unless the minimum is achieved. These credits are recognizable by an 'R' in the number scheme, ex. 1.R1, and a 'Reqd.' in the score column.
Point Score: These credits are evaluated and result in a point score. Where the potential score is greater than 1, no partial points are granted.

5) SPiRiT Sustainable Project Certification Levels:

SPiRiT Bronze	25 to 34 Points
SPiRiT Silver	35 to 49 Points
SPiRiT Gold	50 to 74 Points
SPiRiT Platinum	75 to 100 Points

6) SPiRiT credits have been developed to address facility life cycle phases including programming, design, construction, and commissioning. Additional rating tools will be developed to address installation/base master planning and facilities operations and maintenance, rehabilitation, recycling, and disposal.

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9) Army/USACE employees are members of the USGBC with membership privileges accessible via the USGBC web site, http://www.usgbc.org. For information on membership and access to available LEED resources to support use of SPiRiT and sustainable design in your projects, contact Richard Schneider at (217) 373-6752 or richard.l.schneider@erdc.usace.army.mil (Annette Stumpf at (217) 352-6511 ext. 7542 or annette.l.stumpf@erdc.usace.army.mil alternate).

10) For the latest information on SPiRiT and for access to guidance, tools and resources supporting sustainable design initiatives, visit the CERL 'Sustainable Design and Development Resource' website, http://www.cecer.army.mil/SustDesign. There you may also join the CERL Sustainable Design ListServ to be directly notified of information pertinent to sustainable design.

1.0 Sustainable Sites — Score 20

1.R1 Erosion, Sedimentation, and Water Quality Control [1] — Reqd.

Intent: Control erosion and pollutants to reduce negative impacts on water and air quality.

Requirement:

❑ Design a site sediment and erosion control plan and a pollution prevention plan that conforms to best management practices in the EPA's Storm Water Management for Construction Activities, EPA Document No. EPA-833-R-92-001, Chapter 3, OR local Erosion and Sedimentation Control standards and codes, whichever is more stringent. The plan shall meet the following objectives:

- Prevent loss of soil during construction by storm water runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.
- Prevent sedimentation of storm sewer or receiving streams and/or air pollution with dust and particulate matter.
- Prevent hazardous material discharge into storm water systems.
- Prevent petroleum oils and lubricants (POL) discharge into storm water systems.

Technologies /Strategies: The EPA standard lists numerous measures such as silt fencing, sediment traps, oil grit separators, construction phasing, stabilization of steep slopes, maintaining vegetated ground cover and providing ground cover that will meet this prerequisite.

1.C1 Site Selection [1]

Intent: Avoid development of inappropriate sites and reduce the environmental impact from the location of a building on a site. Select site based on functional adjacencies/relationships and land use compatibility.

Requirement:

❑ Do not develop buildings on portions of sites that meet any one of the following criteria: **1**

- Prime training or maneuver land.
- Land whose elevation is lower than 5 ft. above the 100-year flood elevation as defined by FEMA.
- Land that provides habitat for any species on the Federal or State threatened or endangered list.
- Within 100 feet of any wetland as defined by 40 CFR, Parts 230-233 and Part 22, OR as defined by local or state rule or law, whichever is more stringent.

❑ Select site based on functional adjacencies/relationships and land use compatibility. **1**

- Select sites close to existing roads and utilities or use an existing structure to minimize the need for new infrastructure.
- Select site in area of high density.
- Site facilities based on the strength of their relationships to other facilities/land-uses to limit travel distances. The stronger the relationship/functional interaction, the closer the distance between two facilities.
- Select for distance to installation/base transit systems and access to pedestrian ways and bike paths.
- Select for development previously used or developed suitable and available sites.

Technologies /Strategies: Screen potential building sites for these criteria and/or ensure that these criteria are addressed by the designer during the conceptual design phase. Utilize landscape architects, ecologists, environmental engineers, civil engineers, and similar professionals for the screening process. New wetlands constructed as part of stormwater mitigation or other site restoration efforts are not affected by the restrictions of this prerequisite.

[1] Adapted material not reviewed or endorsed by U. S. Green Building Council.

1.0 Sustainable Sites (Continued)

1.C2 Installation/Base Redevelopment [1]

Intent: Channel development to installation/base cantonment areas with existing infrastructure, protecting greenfields and preserving habitat and natural resources.

Requirement:

- ❑ Increase localized density to conform to existing or desired density goals by utilizing sites that are located within existing cantonment areas of high development density. **1**
- ❑ Select sites close to existing roads and utilities or use an existing structure to minimize the need for new infrastructure. **1**

Technologies /Strategies: During the site selection process give preference to previously developed sites with installation/base cantonment redevelopment potential such as facility reduction program cleared sites.

1.C3 Brownfield Redevelopment [1]

Intent: Rehabilitate damaged sites where development is complicated by real or perceived environmental contamination, reducing pressure on undeveloped land.

Requirement:

- ❑ Develop on a site classified as a brownfield and provide remediation as required by EPA's Brownfield Redevelopment program requirements OR Develop a brownfield site (a site that has been contaminated by previous uses). **1**

Technologies /Strategies: Screen potential damaged sites for these criteria prior to selection for rehabilitation.

Utilize EPA OSWER Directive 9610.17 and ASTM Standard Practice E1739 for site remediation where required.

1.C4 Alternative Transportation [1]

Intent: Reduce pollution and land development impacts from automobile use.

Requirement:

- ❑ Locate building within ½ mile of installation/base transit systems. **1**
- ❑ Provide suitable means for securing bicycles, with convenient changing/shower facilities for use by cyclists, for 5% or more of building occupants. **1**
- ❑ Locate building within 2 miles of alternative-fuel refueling station(s). **1**
- ❑ Size parking capacity not to exceed minimum installation/base cantonment requirements AND provide preferred parking for carpools or van pools capable of serving 5% of the building occupants, OR, add no new parking for rehabilitation projects AND provide preferred parking for carpools or van pools capable of serving 5% of the building occupants. **1**

Technologies /Strategies: Select sites near public installation/base transit served by safe, convenient pedestrian pathways.

[1] Adapted material not reviewed or endorsed by U. S. Green Building Council.

1.0 Sustainable Sites (Continued)

1.C5 Reduced Site Disturbance [1]

Intent: Conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.

Requirement:

- ❑ On greenfield sites, limit site disturbance including earthwork and clearing of vegetation to 40 feet beyond the building perimeter, 5 feet beyond primary roadway curbs, walkways, and main utility branch trenches, and 25 feet beyond pervious paving areas that require additional staging areas in order to limit compaction in the paved area; OR, on previously developed sites, restore a minimum of 50% of the remaining open area by planting native or adapted vegetation. **1**

- ❑ Reduce the development footprint (including building, access roads and parking) to exceed the installation/base's/base's master plan local zoning's open space requirement for the site by 25% or in accordance with installation/base policy on open space set asides, whichever is greater. **1**

Technologies /Strategies: Note requirements on plans and in specifications. Establish contractual penalties for destruction of trees and site areas noted for protection. Reduce footprints by tightening program needs and stacking floor plans. Establish clearly marked construction and disturbance boundaries. Delineate laydown, recycling, and disposal areas. Use areas to be paved as staging areas. Work with local horticultural extension services, native plant societies, or installation/base agronomy staff to select indigenous plant species for site restoration and landscaping.

1.C6 Stormwater Management [1]

Intent: Limit disruption of natural water flows by minimizing storm water runoff, increasing on-site infiltration and reducing contaminants.

Requirement: Implement a stormwater management plan that results in:

- ❑ No net increase in the rate or quantity of stormwater runoff from undeveloped to developed conditions; OR, if existing imperviousness is greater than 50%, implement a stormwater management plan that results in a 25% decrease in the rate and quantity of stormwater runoff. **1**

- ❑ Treatment systems designed to remove 80% of the average annual post development total suspended solids (TSS), and 40% of the average annual post development total phosphorous (TP), by implementing Best Management Practices (BMPs) outlined in EPA's Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (EPA-840-B-92-002 1/93). **1**

Technologies /Strategies: Significantly reduce impervious surfaces, maximize on-site stormwater infiltration, and retain pervious and vegetated areas. Capture rainwater from impervious areas of the building for groundwater recharge or reuse within building. Use green/vegetated roofs. Utilize biologically-based and innovative stormwater management features for pollutant load reduction such as constructed wetlands, stormwater filtering systems, bioswales, bio-retention basins, and vegetated filter strips. Use open vegetated swales to reduce drainage velocity and erosion, reduce system maintenance, increase vegetative variety and support wildlife habitat where space permits.

1.C7 Landscape and Exterior Design to Reduce Heat Islands [2]

Intent: Reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitat.

Requirement:

- ❑ Provide shade (within 5 years) on at least 30% of non-roof impervious surface on the site, including parking lots, walkways, plazas, etc., OR, use light-colored/ high-albedo materials (reflectance of at least 0.3) for 30% of the site's non-roof impervious surfaces, OR place a minimum of 50% of parking space under-ground OR use open-grid pavement system (net impervious area of LESS than 50%) for a minimum of 50% of the parking lot area. **1**

- ❑ Use ENERGY STAR Roof compliant, high-reflectance AND low emissivity roofing (initial reflectance of at least .65 and three-year-aged reflectance of at least .5 when tested in accordance with ASTM E408) for a minimum of 75% of the roof surface; OR, install a "green" (vegetated) roof for at least 50% of the roof area. **1**

Technologies /Strategies: Employ design strategies, materials, and landscaping designs that reduce heat absorption of exterior materials. Note albedo/reflectance requirements in the drawings and specifications. Provide shade (calculated on June 21, noon solar time) using native or climate tolerant trees and large shrubs, vegetated trellises, or other exterior structures supporting vegetation. Substitute vegetated surfaces for hard surfaces. Explore elimination of blacktop and the use of new coatings and integral colorants for asphalt to achieve light colored surfaces.

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1.0 Sustainable Sites (Continued)

1.C8 Light Pollution Reduction [1]

Intent: Eliminate light trespass from the building site, improve night sky access, and reduce development impact on nocturnal environments.

Requirement:
- ❑ Do not exceed Illuminating Engineering Society of North America (IESNA) footcandle level requirements as stated in the Recommended Practice Manual: Lighting for Exterior Environments, AND design interior and exterior lighting such that zero direct-beam illumination leaves the building site. **1**

Technologies /Strategies: Consult IESNA Recommended Practice Manual: Lighting for Exterior Environments for Commission Internationle de I'Eclairage (CIE) zone and pre and post curfew hour descriptions and associated ambient lighting level requirements. Ambient lighting for pre-curfew hours for CIE zones range between .01 footcandles for areas with dark landscapes such as parks, rural, and residential areas, and 1.5 footcandles for areas with high ambient brightness such as installation/base areas with high levels of nighttime activity. Design site lighting and select lighting styles and technologies to have a minimal impact off-site and minimal contribution to sky glow. Minimize lighting of architectural and landscape features. Exterior lighting should be consistent with security lighting requirements.

1.C9 Optimize Site Features

Intent: Optimize utilization of the site's existing natural features and placement of man-made features on the site.

Requirement:
- ❑ Perform both of the following: **1**
  - Maximize the use of free site energy.
  - Plan facility, parking and roadways to "fit" existing site contours and limit cut and fill.

Technologies /Strategies: Evaluate site resources to ascertain how each can enhance the proposed project and visa versa. Work to maximum advantage of the site's solar and wind attributes. Use landscaping to optimize solar and wind conditions and to contribute to energy efficiency; Locate and orient the facility on the site to optimize solar and wind conditions.

1.C10 Facility Impact

Intent: Minimize negative impacts on the site and on neighboring properties and structures; avoid or mitigate excessive noise, shading on green spaces, additional traffic, obscuring significant views, etc.

Requirement:
- ❑ Cluster facilities to reduce impact, access distance to utilities and sufficient occupant density to support mass transit. **1**
- ❑ Collaborate with installation/base and community planners to identify and mitigate potential impacts of the project beyond site boundaries, and transportation planners to insure efficient public transport. **1**

Technologies /Strategies: Involve local/regional planners and community members in installation/base master planning processes. Recognize the context and the impact of a project beyond site boundaries, and integrate it with the larger installation/base/community context/land use.

1.C11 Site Ecology

Intent: Identify and mitigate all existing site problems including contamination of soil, water, and air, as well as any negative impacts caused by noise, eyesores, or lack of vegetation, enhancing or creating new site habitat.

Requirement:
- ❑ Develop site environmental management and mitigation plan. **1**

Technologies /Strategies: Understand site and surrounding ecosystem interdependence and interconnectivity. Plan landscaping scheme to incorporate biodiversity. Preserve/enhance existing trees, hydrological features, ecosystems, habitats, and cultural resources. Increase the existence of healthy habitat for native species. Reintroduce native plants and trees where they have been destroyed by previous development.

[1] Adapted material not reviewed or endorsed by U. S. Green Building Council.

2.0 Water Efficiency — Score 5

2.C1 Water Efficient Landscaping [2]

Intent: Limit or eliminate the use of potable water for landscape irrigation.

Requirement:

- ❑ Use high efficiency irrigation technology, OR, use captured rain or recycled site water to reduce potable water consumption for irrigation by 50% over conventional means. **1**
- ❑ Use only captured rain or recycled site water for an additional 50% reduction (100% total reduction) of potable water for site irrigation needs, OR, do not install permanent landscape irrigation systems. **1**

Technologies /Strategies: Develop a landscaping water use baseline according to the methodology outlined in the LEED Reference Guide. Specify water-efficient, native or adapted, climate tolerant plantings. High efficiency irrigation technologies include micro irrigation, moisture sensors, or weather data based controllers. Feed irrigation systems with captured rainwater, gray water, or on-site treated wastewater.

2.C2 Innovative Wastewater Technologies [2]

Intent: Reduce generation of wastewater and potable water demand, while increasing local aquifer recharge.

Requirement:

- ❑ Reduce the use of municipally provided potable water for building sewage conveyance by a minimum of 50%, OR, treat 100% of wastewater on site to tertiary standards. **1**

Technologies /Strategies: Develop a wastewater baseline according to the methodology outlined in the LEED Reference Guide. Implement decentralized on-site wastewater treatment and reuse systems. Decrease the use of potable water for sewage conveyance by utilizing gray and/or black water systems. Non-potable reuse opportunities include, toilet flushing, landscape irrigation, etc. Provide advanced wastewater treatment after use by employing innovative, ecological, on-site technologies including constructed wetlands, a mechanical recirculating sand filter, or aerobic treatment systems.

2.C3 Water Use Reduction [1]

Intent: Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

Requirement:

- ❑ Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting Energy Policy Act (EPACT) of 1992 fixture performance requirements. **1**
- ❑ Exceed the potable water use reduction by an additional 10% (30% total efficiency increase). **1**

Technologies /Strategies: Develop a water use baseline including all water consuming fixtures, equipment, and seasonal conditions according to methodology guidance outlined in the LEED Reference Guide. Specify water conserving plumbing fixtures that exceed Energy Policy Act (EPACT) of 1992 fixture requirements in combination with ultra high efficiency or dry fixture and control technologies. Specify high water efficiency equipment (dishwashers, laundry, cooling towers, etc.). Use alternatives to potable water for sewage transport water. Use recycled or storm water for HVAC/process make up water. Install cooling tower systems designed to minimize water consumption from drift, evaporation and blowdown.

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3.0 Energy and Atmosphere — Score 28

3.R1 Fundamental Building Systems Commissioning [1] — Reqd.

Intent: Verify and ensure that fundamental building elements and systems are designed, installed and calibrated to operate as intended.

Requirement: ❑ Implement all of the following fundamental best practice commissioning procedures.

- Engage a commissioning authority.
- Develop design intent and basis of design documentation.
- Include commissioning requirements in the construction documents.
- Develop and utilize a commissioning plan.
- Verify installation, functional performance, training and documentation.
- Complete a commissioning report.

Technologies /Strategies: Introduce standards and strategies into the design process early, and then carry through selected measures by clearly stating target requirements in the construction documents. Tie contractor final payments to documented system performance. Perform additional commissioning in accordance with the DOE Building Commissioning Guide, Version 2.2. Refer to the LEED Reference Guide for detailed descriptions of required elements and references to additional commissioning guides. Specify pre-occupancy baseline IAQ testing at time of commissioning. Test for indoor air concentrations of CO, CO2, total VOCs and particulates. Test to assure that adequate ventilation rates have been achieved prior to initial occupancy.

3.R2 Minimum Energy Performance [1] — Reqd.

Intent: Establish the minimum level of energy efficiency for the base building and systems.

Requirement: ❑ Design to meet building energy efficiency and performance as required by TI 800-01 (Design Criteria).

Technologies /Strategies: Use building modeling and analysis techniques to establish and document compliance. ASHRAE/IESNA 90.1-1999 provides guidance for establishing building base case development and analysis. Refer to the LEED Reference Guide for a wide variety of energy efficiency strategy resources.

Use a professionally recognized and proven computer program or programs that integrate architectural features with air-conditioning, heating, lighting, and other energy producing or consuming systems. These programs will be capable of simulating the features, systems, and thermal loads used in the design. Using established weather data files, the program will perform 8760 hourly calculations. BLAST, DOE-2 or EnergyPlus are acceptable programs for these purposes.

3.R3 CFC Reduction in HVAC&R Equipment [2] — Reqd.

Intent: Reduce ozone depletion.

Requirement: ❑ Zero use of CFC-based refrigerants in new base building HVAC&R systems. When reusing existing base building HVAC equipment, complete a comprehensive CFC phaseout conversion.

Technologies /Strategies: Specify only non-CFC-based refrigerants in all base building HVAC&R systems.

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3.0 Energy and Atmosphere (Continued)

3.C1 Optimize Energy Performance [1]

Intent: Achieve increasing levels of energy performance above the prerequisite standard to reduce environmental impacts associated with excessive energy use.

Requirement:

- ❑ Reduce design energy usage (DEU) compared to the energy use budget (EUB) in joules per square meter per year for regulated energy components as described in the requirements of Chapter 11 of the TI 800-01 (Design Criteria), as demonstrated by a whole building simulation. **20**
  - 1 Point will be awarded for every reduction in design energy use of 2.5% for both new and existing facilities for a maximum score of 20 points.

Regulated energy components include HVAC systems, building envelope, service hot water systems, lighting and other regulated systems as defined by ASHRAE.

Technologies /Strategies: Develop and use building modeling and analysis techniques to establish a base case that meets the minimum prerequisite standard. ASHRAE/IESNA 90.1-1999 provides guidance for establishing building base case development and analysis. Perform interactive energy use analysis for selected design elements that affect energy performance and document compliance.

Unit of measure for performance shall be annual energy usage in joules per square meter. Life-Cycle energy costs shall be determined using rates for purchased energy, such as electricity, gas, oil, propane, steam, and chilled water and approved by the adopting authority. Refer to the LEED Reference Guide or Whole Building Design Guide for a wide variety of energy efficiency resources and strategies including conservation measures, electromechanical energy efficiency technologies (for example ground-source heat pumps), passive heating and cooling strategies, solar hot water, and daylighting.

Life-Cycle costing will be done in accordance with 10 CFR 436.

Consider installation of an Energy Management and Control System (EMCS), which is compatible with exiting installation systems to optimize performance. Use sensors to control loads based on occupancy, schedule and/or the availability of natural resources use (day light or natural ventilation).

3.C2 Renewable Energy [1]

Intent: Encourage and recognize increasing levels of self-supply through renewable technologies to reduce environmental impacts associated with fossil fuel energy use.

Requirement:

- ❑ Supply a net fraction of the building's total energy use through the use of on-site renewable energy systems.

% of Total Annual Energy Usage in Renewables	
5%	**1**
10%	**2**
15%	**3**
20%	**4**

Technologies /Strategies: Employ the use of on-site non-polluting-source renewable technologies contributing to the total energy requirements of the project. Consider and use high temperature solar and/or geothermal, photovoltaics, wind, biomass (other than unsustainably harvested wood), and bio-gas. Passive solar, solar hot water heating, ground-source heat pumps, and daylighting do not qualify for points under this credit. Credit for these strategies is given in Energy & Atmosphere Credit 1: Optimizing Energy Performance.

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3.C3 Additional Commissioning [2]

Intent: Verify and ensure that the entire building is designed, constructed, and calibrated to operate as intended.

Requirement: ❑ In addition to the Fundamental Building Commissioning prerequisite, implement the following additional commissioning tasks: **1**

1. Conduct a focused review of the design prior to the construction documents phase.
2. Conduct a focused review of the construction documents when close to completion.
3. Conduct a selective review of contractor submittals of commissioned equipment.
4. Develop a system and energy management manual.
5. Have a contract in place for a near-warranty end or post occupancy review.

Items 1, 2, and 3 must be performed by someone other than the designer.

Technologies /Strategies: Introduce standards and strategies into the design process early, and then carry through selected measures by clearly stating target requirements in the construction documents. Tie contractor final payments to documented system performance. Refer to the LEED Reference Guide for detailed descriptions of required elements and references to additional guidelines.

3.C4 << Deleted >> [1]

3.C5 Measurement and Verification [1]

Intent: Provide for the ongoing accountability and optimization of building energy and water consumption performance over time.

Requirement: ❑ Comply with the installed equipment requirements for continuous metering as stated in selected Measurement and Verification Methods - Option B: Retrofit Isolation of the US DOE's International Performance Measurement and Verification Protocol (IPMVP) for the following: **1**

- Lighting systems and controls.
- Constant and variable motor loads.
- Variable frequency drive (VFD) operation.
- Chiller efficiency at variable loads (kW/ton).
- Cooling load.
- Air and water economizer and heat recovery cycles.
- Air distribution static pressures and ventilation air volumes.
- Boiler efficiencies.
- Building specific process energy efficiency systems and equipment.
- Indoor water risers and outdoor irrigation systems.

Technologies /Strategies: Design and specify equipment to be installed in base building systems to allow for comparison, management, and optimization of actual vs. estimated energy and water performance. Employ building automation systems to perform M&V functions where applicable. Tie contractor final payments to documented M&V system performance and include in the commissioning report. Provide for ongoing M&V system maintenance and operating plan in building operations and maintenance manuals. Consider installation/base of an Energy Management and Control System (EMCS), which is compatible with exiting installation/base systems to optimize performance.

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3.C6 Green Power [1]

Intent: Encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis.

Requirement:
- ❑ Engage in a two year contract to purchase the amount of power equal to projected building consumption generated from renewable sources that meet the Center for Resource Solutions (CRS) Green-E requirements. **1**

Technologies /Strategies: Purchase power from a provider that guarantees a fraction of its delivered electric power is from net nonpolluting renewable technologies. Begin by contacting local utility companies. If the project is in an open market state, investigate Green Power and Power Marketers licensed to provide power in that state. Grid power that qualifies for this credit originates from solar, wind, geothermal, biomass, or low-impact hydro sources. Low-impact hydro shall comply with the Low Impact Hydropower Certification Program.

3.C7 Distributed Generation

Intent: Encourage the development and use of distributed generation technologies, which are less polluting than grid-source energy.

Requirement:
- ❑ Reduce total energy usage and emissions by considering source energy implications and local cogeneration and direct energy conversion. Generate at least 50% of the building's projected annual consumption by on-site distributed generation sources. **1**

Technologies /Strategies: Investigate the use of integrated generation and delivery systems, such as co-generation, fuel cells, micro-turbines and off-peak thermal storage.

[1] Adapted material not reviewed or endorsed by U. S. Green Building Council.

4.0 Materials and Resources — Score 13

4.R1 **Storage & Collection of Recyclables** [1] — **Reqd.**

Intent: Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.

Requirement:

- ☐ Provide an easily accessible area that serves the entire building that is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, glass, plastics, and metals.

Technologies /Strategies: Establish a waste management plan which meets requirements of the installation/base environmental and/or solid waste management plans in cooperation with users to encourage recycling. Reserve space for recycling functions early in the building occupancy programming process and show areas dedicated to collection of recycled materials on space utilization plans. Broader recycling support space considerations should allow for collection and storage of the required elements and newspaper, organic waste (food and soiled paper), and dry waste. When collection bins are used, bin(s) should be able to accommodate a 75% diversion rate and be easily accessible to custodial staff and recycling collection workers. Consider bin designs that allow for easy cleaning to avoid health issues.

4.C1 **Building Reuse** [1]

Intent: Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste, and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

Requirement: Reuse large portions of existing structures during renovation or redevelopment projects.

- ☐ Maintain at least 75% of existing building structure and shell (exterior skin and framing excluding window assemblies). — 1
- ☐ Maintain an additional 25% (100% total) of existing building structure and shell (exterior skin and framing excluding window assemblies). — 1
- ☐ Maintain 100% of existing building structure and shell AND 50% non-shell (walls, floor coverings, and ceiling systems). — 1

Technologies /Strategies: Evaluate retention of existing structure. Consider facade preservation, particularly in installation/base areas. During programming and space planning, consider adjusting needs and occupant use patterns to fit within existing building structure and interior partition configurations. Identify and effectively address energy, structural, and indoor environmental (lead & asbestos) issues in building reuse planning and deconstruction documents. Percentage of reused non-shell building portions will be calculated as the total area (s.f.) of reused walls, floor covering, and ceiling systems, divided by the existing total area (s.f.) of walls, floor covering, and ceiling systems.

4.C2 **Construction Waste Management** [1]

Intent: Divert construction, demolition, and land clearing debris from landfill disposal. Redirect recyclable material back to the manufacturing process.

Requirement: Develop and implement a waste management plan, quantifying material diversion by weight:

- ☐ Recycle and/or salvage at least 50% (by weight) of construction, demolition, and land clearing waste. — 1
- ☐ Recycle and/or salvage an additional 25% (75% total by weight) of the construction, demolition, and land clearing debris. — 1

Technologies /Strategies: Develop and specify a waste management plan which meets requirements of the installation/base environmental and/or solid waste management plans that identifies licensed haulers and processors of recyclables; identifies markets for salvaged materials; employs deconstruction, salvage, and recycling strategies and processes, includes waste auditing; and documents the cost for recycling, salvaging, and reusing materials. Source reduction on the job site should be an integral part of the plan.

The plan should address recycling of corrugated cardboard, metals, concrete brick, asphalt, land clearing debris (if applicable), beverage containers, clean dimensional wood, plastic, glass, gypsum board, and carpet; evaluate the cost-effectiveness of recycling rigid insulation, engineered wood products and other materials; hazardous materials storage and management; and participation in manufacturers' "take-back" programs to the maximum extent possible. Refer to the LEED Reference Guide for guidelines and references that provide waste management plan development and implementation support including model bid specifications.

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[1] Adapted material not reviewed or endorsed by U. S. Green Building Council.

4.C3 **Resource Reuse** [2]

Intent: Extend the life cycle of targeted building materials, reducing environmental impacts related to materials manufacturing and transport.

Requirement:

- ❑ Specify salvaged or refurbished materials for 5% of building materials. 1
- ❑ Specify salvaged or refurbished materials for 10% of building materials. 1

Technologies /Strategies: Commonly salvaged building materials include wood flooring/ paneling/cabinets, doors and frames, mantels, iron work and decorative lighting fixtures, brick, masonry and heavy timbers. See the LEED Reference Guide for calculation tools and guidelines. Determine percentages in terms of dollar value using the following steps:

1. Calculate total dollars* (see exclusions) of the salvaged or refurbished material.
2. Calculate total dollars (see exclusions) of all building materials.
3. Divide Step 1 by Step 2 to determine the percentage.

Exclusions: In total dollar calculations, exclude; labor costs; all mechanical and electrical material and labor costs; and project overhead and fees. *If the cost of the salvaged or refurbished material is below market value, use replacement cost to estimate the material value, otherwise use actual cost to the project.

4.C4 **Recycled Content** [1]

Intent: Increase demand for building products that have incorporated recycled content material, reducing the impacts resulting from extraction of new material.

Requirement:

- ❑ Specify a minimum of 25% of building materials that contain in aggregate a minimum weighted average of 20% post-consumer recycled content material, OR, a minimum weighted average of 40% post-industrial recycled content material. 1
- ❑ Specify an additional 25% (50% total) of building materials that contain in aggregate, a minimum weighted average of 20% post consumer recycled content material, OR, a minimum weighted average of 40% post-industrial recycled content material. 1

Technologies /Strategies: Specify building materials containing recycled content for a fraction of total building materials. Select products and materials with supporting information from the AIA Resource Guide or the EPA Environmentally Preferable Purchasing (EPP) Program. Common building materials and products with recycled content include; wall, partition, and ceiling materials and systems; insulation; tiles and carpets; cement, concrete, and reinforcing metals; structural and framing steel. For products/materials not listed, selection should be made on the basis of EPP criterion and/or:

- Toxicity;
- Embodied energy;
- Production use of water, energy and ozone depleting substances (ODSs);
- Production limits on toxic emissions and effluents;
- Minimal, reusable or recycled/recyclable packaging;
- Impact on indoor environmental quality (IEQ);
- Installation that limits generation of waste;
- Materials that limit waste generation over their life;
- EPA guideline compliance; and
- Harvested on a sustainable yield basis.

See the LEED Reference Guide for a summary of the EPA guidelines and calculation methodology guidelines. Determine percentages in terms of dollar value using the following steps:

1. Calculate total dollars (see exclusions) of the material that contain recycled content.
2. Calculate total dollars (see exclusions) of all building materials.
3. Divide Step 1 by Step 2 to determine the percentage.

Exclusions: Labor costs; all mechanical and electrical material and labor costs; project overhead and fees)

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[1] Adapted material not reviewed or endorsed by U. S. Green Building Council.

4.C5 **Local/Regional Materials** [2]

Intent: Increase demand for building products that are manufactured locally, reducing the environmental impacts resulting from transportation, and supporting the local economy.

Requirement:

- ☐ Specify a minimum of 20% of building materials that are manufactured regionally within a radius of 500 miles. 1
- ☐ Of these regionally manufactured materials, specify a minimum of 50% that are extracted, harvested, or recovered within 500 miles. 1

Technologies /Strategies: Specify and install regionally extracted, harvested, and manufactured building materials. Contact the state and local waste management boards for information about regional building materials. See the LEED Reference Guide for calculation methodology guidelines. Determine percentages in terms of dollar value using the following steps:

1. Calculate total dollars (see exclusions) of material that is locally or regionally manufactured.
2. Calculate total dollars (see exclusions) of all building materials.
3. Divide Step 1 by Step 2 to determine the percentage.

Exclusions: Labor costs; all mechanical and electrical material and labor costs; project overhead and fees.

4.C6 **Rapidly Renewable Materials** [2]

Intent: Reduce the use and depletion of finite raw and long cycle renewable materials by replacing them with rapidly renewable materials.

Requirement:

- ☐ Specify rapidly renewable building materials for 5% of total building materials. 1

Technologies /Strategies: Rapidly renewable resources are those materials that substantially replenish them-selves faster than traditional extraction demand (e.g. planted and harvested in less than a 10 year cycle) and do not result in significant biodiversity loss, increase erosion, air quality impacts, and that are sustainably managed. See the LEED Reference Guide for calculation methodology guidelines. Determine percentages in terms of dollar value using the following steps:

1. Calculate total dollars (see exclusions) of materials that are considered to be rapidly renewable.
2. Calculate total dollars (see exclusions) of all building materials.
3. Divide Step 1 by Step 2 to determine the percentage.

Exclusions: Labor costs; all mechanical and electrical material and labor costs; project overhead and fees.

4.C7 **Certified Wood** [2]

Intent: Encourage environmentally responsible forest management.

Requirement:

- ☐ Use a minimum of 50% of wood-based materials certified in accordance with the Forest Stewardship Council guidelines for wood building components including but not limited to framing, flooring, finishes, furnishings, and non-rented temporary construction applications such as bracing, concrete form work and pedestrian barriers. 1

Technologies /Strategies: Refer to the Forest Stewardship Council guidelines for wood building components that qualify for compliance to the requirements and incorporate into material selection for the project.

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5.R1 **Minimum IAQ Performance** [1] **Reqd.**

Intent: Establish minimum IAQ performance to prevent the development of indoor air quality problems in buildings, maintaining the health and well being of the occupants.

Requirement: ☐ Meet the minimum requirements of voluntary consensus standard ASHRAE 62-1999, Ventilation for Acceptable Indoor Air Quality and approved Addenda.

Technologies /Strategies: Include proactive design details that will eliminate some of the common causes of indoor air quality problems in buildings. Introduce standards into the design process early. Incorporate references to targets in plans and specifications. Ensure ventilation system outdoor air capacity can meet standards in all modes of operation. Locate building outdoor air intakes (including operable windows) away from potential pollutants/contaminant sources such as sporulating plants (allergens), loading areas, building exhaust fans, cooling towers, sanitary vents, dumpsters, vehicular exhaust, and other sources. Include operational testing in the building commissioning report. Design cooling coil drain pans to ensure complete draining. Include measures to control and mitigate radon buildup in areas where it is prevalent. Limit humidity to a range that minimizes mold growth and promotes respiratory health.

5.R2 **Environmental Tobacco Smoke (ETS) Control** [2] **Reqd.**

Intent: Prevent exposure of building occupants and systems to Environmental Tobacco Smoke (ETS).

Requirement: ☐ Zero exposure of nonsmokers to ETS by prohibition of smoking in the building, OR, by providing a designated smoking room designed to effectively contain, capture and remove ETS from the building. At a minimum, the smoking room shall be directly exhausted to the outdoors with no recirculation of ETS-containing air to the non-smoking area of the building, enclosed with impermeable structural deck-to-deck partitions and operated at a negative pressure compared with the surrounding spaces of at least 7 Pa (0.03 inches of water gauge). Performance of smoking rooms shall be verified using tracer gas testing methods as described in ASHRAE Standard 129-1997. Acceptable exposure in non-smoking areas is defined as less than 1% of the tracer gas concentration in the smoking room detectable in the adjoining non-smoking areas. Smoking room testing as described in the ASHRAE Standard 129-1997 is required in the contract documents and critical smoking facility systems testing results must be included in the building commissioning plan and report or as a separate document.

Technologies /Strategies: Prohibit smoking in the building and/or provide designated smoking areas outside the building in locations where ETS cannot reenter the building or ventilation system and away from high building occupant or pedestrian traffic.

5.C1 **IAQ Monitoring** [1]

Intent: Provide capacity for indoor air quality (IAQ) monitoring to sustain long term occupant health and comfort.

Requirement: ☐ Install a permanent carbon dioxide (CO_2) monitoring system that provides feedback on space ventilation performance in a form that affords operational adjustments, AND specify initial operational set point parameters that maintain indoor carbon dioxide levels no higher than outdoor levels by more than 530 parts per million at any time. 1

Technologies /Strategies: Install an independent system or make CO_2 monitoring a function of the building automation system. Situate monitoring locations in areas of the building with high occupant densities and at the ends of the longest runs of the distribution ductwork. Specify that system operation manuals require calibration of all of the sensors per manufacturer recommendations but not less than one year. Include sensor and system operational testing and initial set point adjustment in the commissioning plan and report. Also consider periodic monitoring of carbon monoxide (CO), total volatile organic compounds (TVOCs), and particulates (including PM10).

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(1) Adapted material not reviewed or endorsed by U. S. Green Building Council.

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5.C2 **Increase Ventilation Effectiveness** [2]

Intent: Provide for the effective delivery and mixing of fresh air to building occupants to support their health, safety, and comfort.

Requirement:

- ☐ For mechanically ventilated buildings, design ventilation systems that result in an air change effectiveness (E) greater than or equal to 0.9 as determined by ASHRAE 129-1997. For naturally ventilated spaces demonstrate a distribution and laminar flow pattern that involves not less than 90% of the room or zone area in the direction of air flow for at least 95% of hours of occupancy. 1

Technologies /Strategies: Employ architectural and HVAC design strategies to increase ventilation effectiveness and prevent short-circuiting of airflow delivery. Techniques available include use of displacement ventilation, low velocity, and laminar flow ventilation (under floor or near floor delivery) and natural ventilation. Operable windows with an architectural strategy for natural ventilation, cross ventilation, or stack effect can be appropriate options with study of inlet areas and locations. See the LEED Reference Guide for compliance methodology guidelines.

5.C3 **Construction IAQ Management Plan** [2]

Intent: Prevent indoor air quality problems resulting from the construction/renovation process, to sustain long term installer and occupant health and comfort.

Requirement: Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building as follows:

- ☐ During construction meet or exceed the minimum requirements of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guideline for Occupied Buildings under Construction, 1995, AND protect stored on-site or installed absorptive materials from moisture damage, AND replace all filtration media immediately prior to occupancy (Filtration media shall have a Minimum Efficiency Reporting Value (MERV) of 13 as determined by ASHRAE 52.2-1999). 1
- ☐ Conduct a minimum two-week building flushout with new filtration media at 100% outside air after construction ends and prior to occupancy, OR, conduct a baseline indoor air quality testing procedure consistent with current EPA protocol for Environmental Requirements, Baseline IAQ and Materials, for the Research Triangle Park Campus, Section 01445. 1

Technologies /Strategies: Specify containment control strategies including protecting the HVAC system, controlling pollutant sources, interrupting pathways for contamination, enforcing proper housekeeping and coordinating schedules to minimize disruption. Specify the construction sequencing to install absorptive materials after the prescribed dry or cure time of wet finishes to minimize adverse impacts on indoor air quality. Materials directly exposed to moisture through precipitation, plumbing leaks, or condensation from the HVAC system are susceptible to microbial contamination. Absorptive materials to protect and sequence installation include; insulation, carpeting, ceiling tiles, and gypsum products. Appoint an IEQ Manager with owner's authority to inspect IEQ problems and require mitigation as necessary.

5.C4 **Low-Emitting Materials** [2]

Intent: Reduce the quantity of indoor air contaminants that are odorous or potentially irritating to provide installer and occupant health and comfort.

Requirement: Meet or exceed VOC limits for adhesives, sealants, paints, composite wood products, and carpet systems as follows:

- ☐ Adhesives must meet or exceed the VOC limits of South Coast Air Quality Management District Rule #1168 by, AND all sealants used as a filler must meet or exceed Bay Area Air Resources Board Reg. 8, Rule 51. 1
- ☐ Paints and coatings must meet or exceed the VOC and chemical component limits of Green Seal requirements. 1
- ☐ Carpet systems must meet or exceed the Carpet and Rug Institute Green Label Indoor Air Quality Test Program. 1
- ☐ Composite wood or agrifiber products must contain no added urea-formaldehyde resins. 1

Technologies /Strategies: Evaluate and preferentially specify materials that are low emitting, non-irritating, nontoxic and chemically inert. Request and evaluate emissions test data from manufacturers for comparative products. Ensure that VOC limits are clearly stated in specifications, in General Conditions, or in each section where adhesives, sealants, coatings, carpets, and composite woods are addressed.

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5.C5 **Indoor Chemical and Pollutant Source Control** [1]

Intent: Avoid exposure of building occupants to potentially hazardous chemicals that adversely impact air quality.

Requirement:

- ☐ Design to minimize cross-contamination of regularly occupied areas by chemical pollutants: 1
  - Employ permanent entryway systems (grills, grates, etc.) to capture dirt, particulates, etc. from entering the building at all high volume entryways, AND provide areas with structural deck to deck partitions with separate outside exhausting, no air recirculation and negative pressure where chemical use occurs (including housekeeping areas and copying/print rooms), AND provide drains plumbed for appropriate disposal of liquid waste in spaces where water and chemical concentrate mixing occurs.

Technologies /Strategies: Design to physically isolate activities associated with chemical contaminants from other locations in the building, providing dedicated systems to contain and remove chemical pollutants from source emitters at source locations. Applicable measures include eliminating or isolating high hazard areas; designing all housekeeping chemical storage and mixing areas (central storage facilities and janitors closets) to allow for secure product storage; designing copy/fax/printer/printing rooms with structural deck to deck partitions and dedicated exhaust ventilation systems; and including permanent architectural entryway system(s) to catch and hold particles to keep them from entering and contaminating the building interior.

Consider utilization of EPA registered anti-microbial treatments in carpet, textile or vinyl wall coverings, ceiling tiles or paints where microbial contamination is a concern. Utilize "breathable" wall finishes where circumstances require, to reduce moisture build-up and prevent microbial contamination. Minimize selection of fibrous materials, e.g. insulation, carpet and padding and flexible fabrics, whose exposed surfaces when exposed to the air stream or occupied space can contribute significant emissions and absorb and re-emit other contaminants over time.

5.C6 **Controllability of Systems** [2]

Intent: Provide a high level of individual occupant control of thermal, ventilation, and lighting systems to support optimum health, productivity, and comfort conditions.

Requirement:

- ☐ Provide a minimum of one operable window and one lighting control zone per 200 s.f. for all occupied areas within 15 feet of the perimeter wall. 1
- ☐ Provide controls for each individual for airflow, temperature, and lighting for 50% of the non perimeter, regularly occupied areas. 1

Technologies /Strategies: Provide individual or integrated controls systems that control lighting, airflow, and temperature in individual rooms and/or work areas. Consider combinations of ambient and task lighting control and operable windows for perimeter and VAV systems for non perimeter with a 1:1: 2 terminal box to controller to occupant ratio.

5.C7 **Thermal Comfort** [2]

Intent: Provide for a thermally comfortable environment that supports the productive and healthy performance of the building occupants.

Requirement:

- ☐ Comply with ASHRAE Standard 55-1992, Addenda 1995 for thermal comfort standards including humidity control within established ranges per climate zone. 1
- ☐ Install a permanent temperature and humidity monitoring system configured to provide operators control over thermal comfort performance and effectiveness of humidification and/or dehumidification systems in the building. 1

Technologies /Strategies: Integrated envelope and HVAC system design strategies that achieve thermal comfort conditions based on mean radiant temperature, local air velocity, relative humidity, and air temperature. Install and maintain a temperature and humidity monitoring system for key areas of the building (i.e., at the perimeter, and spaces provided with humidity control). This function can be satisfied by the building automation system. Specify in system operation manuals that all sensors require quarterly calibration. Include criteria verification and system operation in commissioning plan and report.

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5.C8 **Daylight and Views** [2]

Intent: Provide a connection between indoor spaces and the outdoor environment through the introduction of sunlight and views into the occupied areas of the building.

Requirement:

- ☐ Achieve a minimum Daylight Factor of 2% (excluding all direct sunlight penetration) in 75% of all space occupied for critical visual tasks, not including copy rooms, storage areas, mechanical, laundry, and other low occupancy support areas. Exceptions include those spaces where tasks would be hindered by the use of daylight or where accomplishing the specific tasks within a space would be enhanced by the direct penetration of sunlight. **1**

- ☐ Direct line of sight to vision glazing from 90% of all regularly occupied spaces, not including copy rooms, storage areas, mechanical, laundry, and other low occupancy support areas. **1**

Technologies /Strategies: Implement design strategies to provide access to daylight and views to the outdoors in a glare-free way using exterior sun shading, interior light shelves, and /or window treatments. Orient buildings to maximize daylighting options. Consider shallow or narrow building footprints. Employ courtyards, atriums, clerestory windows, skylights, and light shelves to achieve daylight penetration (from other than direct effect or direct rays from the sun) deep into regularly occupied areas of the building.

5.C9 **Acoustic Environment /Noise Control**

Intent: Provide appropriate acoustic conditions for user privacy and comfort.

Requirement:

- ☐ Minimize environmental noise through appropriate use of insulation, sound-absorbing materials and noise source isolation. **1**

Technologies /Strategies: Evaluate each occupied environment and determine the appropriate layout, materials and furnishings design.

5.C10 **Facility In-Use IAQ Management Plan**

Intent: Insure the effective management of facility air quality during its life.

Requirement:

- ☐ Perform all of the following: **1**
  - Develop an air quality action plan to include scheduled HVAC system cleaning.
  - Develop an air quality action plan to include education of occupants and facility managers on indoor pollutants and their roles in preventing them.
  - Develop an air quality action plan to include permanent monitoring of supply and return air, and ambient air at the fresh air intake, for carbon monoxide (CO), carbon dioxide (CO 2), total volatile organic compounds (TVOCs), and particulates (including PM10).

Technologies /Strategies: Provide action plan for periodic system maintenance, monitoring, occupant/manager training.

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6.0 Facility Delivery Process — Score 7

6.C1 **Holistic Delivery of Facility**

Intent: Encourage a facility delivery process that actively engages all stakeholders in the design process to deliver a facility that meets all functional requirements while effectively optimizing tradeoffs among sustainability, first costs, life cycle costs and mission requirements.

Requirement:

- ❑ Choose team leaders that are experienced in holistic delivery of facilities. **1**
- ❑ Train the entire team in the holistic delivery process. The team must include all stakeholders in the facility delivery, including the users, the contracting staff, the construction representatives, project manager, and design/engineering team members. **1**
- ❑ Identify project goals and metrics. **1**
- ❑ Plan and execute charrettes with team members at critical phases of the facility delivery. **1**
- ❑ Identify and resolve tradeoffs among sustainability, first costs, life cycle costs and mission requirements through charrettes and other collaborative processes. **2**
- ❑ Document required results for each phase of project deliverables that achieve the project goals and are measurable throughout the facility life span. **1**

Technologies /Strategies:

Develop performance specifications or choose competitive range of products that meet environmental criteria.

Use automated modeling and analysis tools to assess site and facility design alternatives.

Conduct life-cycle cost analysis (LCCA) in the design process according to the Federal Facilities Council Technical Report, Sustainable Federal Facilities: A Guide To Integrating Value Engineering, Life Cycle Costing, and Sustainable Development, FFC # 142, 2000.

Conduct a full ecological assessment to include soil quality, water resources and flows, vegetation and trees, wildlife habitats and corridors, wetlands, and ecologically sensitive areas to identify the least sensitive site areas for development. Evaluate space utilization/functions to reduce overall space requirements, considering networking, flextime, flexi-place, dual-use, and other strategies to reduce space requirements/optimize facility size.

7.0 Current Mission — Score 6

7.C1 **Operation and Maintenance**

Intent: Encourage the development of a facility delivery process that enhances efficient operation and maintenance of the facility.

Requirement:

- ☐ Develop a facility operations and maintenance program to include: **2**
  - Commissioning instructions for all facility systems.
  - Comprehensive facility operations and maintenance instructions for system operation, performance verification procedures and results, an equipment inventory, warrantee information, and recommended maintenance schedule. The instructions should include a comprehensive, preventive maintenance program to keep all facility systems functioning as designed.
  - A periodic training program for occupants, facilities managers, and maintenance staff in all facility operations and maintenance activities.
  - Instructions on sustainable cleaning and pest control practices.
  - Develop a comprehensive site/facility recycling/waste management plan.
- ☐ Provide surfaces, furnishings, and equipment that are appropriately durable, according to life cycle cost analysis. **1**

Technologies /Strategies:

Maintain facility elements, systems and subsystems on a routine maintenance schedule to ensure integrity and longevity.

Perform scheduled cleaning and maintenance activities with nontoxic environmentally preferable cleaning products and procedures. Keep air ducts clean and free of microorganisms through a structured program of preventive maintenance. Clean lighting systems following a regular maintenance schedule to ensure optimum light output and energy efficiency.

Use pesticides and herbicides sparingly and only when necessary with preference to natural methods and materials over poisons and toxic agents.

Use automated monitors and controls for energy, water, waste, temperature, moisture, and ventilation monitors and controls. Turn off the lights, computers, computer monitors, and equipment when not in use. Enable power-down features on office equipment.

7.C2 **Soldier and Workforce Productivity and Retention**

Intent: Provide a high-quality, functional, healthy and safe work environment to promote soldier and workforce productivity and retention.

Requirement:

- ☐ Provide a high quality indoor environment to enhance user/occupant quality of life (QOL). **1**
- ☐ Provide a highly functional work environment to promote user/occupant work productivity. **1**
- ☐ Provide a healthy and safe work environment to sustain QOL and productivity. **1**

Technologies /Strategies:

Use a registered/certified interior designer to provide stimulating interior environments with pleasant colors, surface treatments, room proportions and ceiling heights, external views, natural lighting, and quality detailing for interior furnishings, equipment, materials and finishes. Use IES standards to provide light to occupied space with variations in level, comfortable contrasts, natural color rendition, natural/man-made, and adequate controls to optimize light aesthetic qualities. Provide occupant control of individual work areas configuration, and lighting, thermal and ventilation systems.

Collaborate with end users to identify functional and technical requirements and to perform adjacency studies. Configure occupied space to address the specific workers/occupants functions and activities that will be carried out there. Meet TI 800-01 Design Guide requirements. Design and configure occupied space, and select furniture and equipment using human ergonomics. Identify existing user amenities, such as dining, recreation, socialization, shopping and child care facilities. Identify what amenities should be incorporated into the project or provided in the future, nearby facility. Provide ventilation air in sufficient volume free from natural and man made contaminants.

8.0 Future Missions — Score 4

8.C1 **Functional Life of Facility and Supporting Systems**

Intent: Assess the functional life of a facility and its supporting systems to optimize the infrastructure investment.

Requirement:

- ❑ Identify how long the designed function is likely to occupy the current facility. **1**
- ❑ Identify how long the envelope, structure, HVAC, plumbing, communications, electrical, and other systems are likely to last before requiring replacement or upgrade. Consider economic, functional and physical obsolescence. **1**

Technologies /Strategies: Assess the typical or likely lifespan of the function(s) to be accommodated to forecast eventual adaptation to a different use(s). Assess the life spans of the various building systems/components to forecast their revision/replacement during the facility lifespan and design in a manner that facilitates revision/replacement.

Consider the life span of the weapon systems, doctrines, or other programs supported by the facility.

Use life cycle data and other sources to identify the life span of the embodied systems.

8.C2 **Adaptation, Renewal and Future Uses**

Intent: Encourage facility design that is responsive to change over time to maximize accommodation of future uses without creating waste and insuring maximum useful life of products.

Requirement:

- ❑ Identify possible future uses for the facility; consider alternatives that expand the list of possible future uses. AND Design the building to accommodate as wide a range of future uses, as practical. AND Design the installation of building systems to accommodate foreseeable change with a minimum amount of disruption, cost, and additional materials. **1**
- ❑ Build the smallest facility necessary to meet current mission functional requirements, using the most efficient shape and form, while taking into consideration expansion capabilities and potential future mission requirements. AND Design the facility for recycling of materials and systems. **1**

Technologies /Strategies: Create durable, long-lasting and adaptable facility shell and structural system. Create an adaptable, flexible facility design using open planning, service corridors, interstitial space, access floors, demountable walls/partitions, modular furniture and other adaptable space configuration/utilization strategies.

Select materials that are recyclable, avoiding composite materials, such as reinforced plastics and carpet fibers and backing. Consider selecting materials and labeling construction materials with identification information to facilitate recycling. Use pre-cut/pre-fabricated materials and use standard lengths and sizes (dimensional modularity) in design. Design facility systems and subsystems for reconfiguration and/or disassembly/recycling using reversible/reusable connectors.

Facility Points Summary

1.0	Sustainable Sites (S)	Score	0	Max 20
1.R1	❑ Erosion, Sedimentation and Water Quality Control			[Required]
1.C1	❑ Site Selection			2
1.C2	❑ Installation/Base Redevelopment			2
1.C3	❑ Brownfield Redevelopment			1
1.C4	❑ Alternative Transportation			4
1.C5	❑ Reduced Site Disturbance			2
1.C6	❑ Stormwater Management			2
1.C7	❑ Landscape and Exterior Design to Reduce Heat Islands			2
1.C8	❑ Light Pollution Reduction			1
1.C9	❑ Optimize Site Features			1
1.C10	❑ Facility Impact			2
1.C11	❑ Site Ecology			1
			0	Max 5
2.C1	❑ Water Efficient Landscaping			2
2.C2	❑ Innovative Wastewater Technologies			1
2.C3	❑ Water Use Reduction			2
			0	Max 28
3.R1	❑ Fundamental Building Systems Commissioning			[Required]
3.R2	❑ Minimum Energy Performance			[Required]
3.R3	❑ CFC Reduction in HVAC&R Equipment			[Required]
3.C1	❑ Optimize Energy Performance			20
3.C2	❑ Renewable Energy			4
3.C3	❑ Additional Commissioning			1
3.C4	❑ <<Deleted>>			
3.C5	❑ Measurement and Verification			1
3.C6	❑ Green Power			1
3.C7	❑ Distributed Generation			1
4.0	Materials and Resources (M)	Score	0	Max 13
4.R1	❑ Storage & Collection of Recyclables			[Required]
4.C1	❑ Building Reuse			3
4.C2	❑ Construction Waste Management			2
4.C3	❑ Resource Reuse			2
4.C4	❑ Recycled Content			2
4.C5	❑ Local/Regional Materials			2
4.C6	❑ Rapidly Renewable Materials			1
4.C7	❑ Certified Wood			1
5.0	Indoor Environmental Quality (IEQ) [Q]	Score	0	Max 17
5.R1	❑ Minimum IAQ Performance			[Required]
5.R2	❑ Environmental Tobacco Smoke (ETS) Control			[Required]
5.C1	❑ IAQ Monitoring			1
5.C2	❑ Increase Ventilation Effectiveness			1
5.C3	❑ Construction IAQ Management Plan			2
5.C4	❑ Low-Emitting Materials			4
5.C5	❑ Indoor Chemical and Pollutant Source Control			1
5.C6	❑ Controllability of Systems			2
5.C7	❑ Thermal Comfort			2
5.C8	❑ Daylight and Views			2
5.C9	❑ Acoustic Environment /Noise Control			1
5.C10	❑ Facility In-Use IAQ Management Plan			1

Facility Points Summary (Continued)

				Maximum Points
6.0	Facility Delivery Process (P)	Score	0	Max 7
6.C1	☐ Holistic Delivery of Facility			7
7.0	Current Mission	Score	0	Max 6
7.C1	☐ Operation and Maintenance			3
7.C2	☐ Soldier and Workforce Productivity and Retention			3
8.0	Future Missions	Score	0	Max 4
8.C1	☐ Functional Life of Facility and Supporting Systems			2
8.C2	☐ Adaptation, Renewal and Future Uses			2

Total Score 0 Max 100

SPiRiT Sustainable Project Certification Levels

SPiRiT Bronze		**25 to 34 Points**
SPiRiT Silver		**35 to 49 Points**
SPiRiT Gold		**50 to 74 Points**
SPiRiT Platinum		**75 to 100 Points**

Project Points of Contact

SPiRiT Comment Sheet

Please forward any comments that you may have on this Sustainable Project Rating Tool, preferably by Email, to:

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SPiRiT Para.

	SPIRIT Summary Table	Maximum points possible	Proposed/Earned Points	
PAR	**FEATURE**			**REMARKS**
	CATEGORY 1 - SUSTAINABLE SITES			
1.R1	Sediment/Erosion Control Plan	R	R	Project requirement.
1.C1	Avoid undesirable sites	1	1	
	Site adjacencies/compatibility	1	1	Project Meets Criteria
1.C2	Increase density	1	1	
	Minimize new infrastructure	1	1	Project Meets Criteria
1.C3	Brownfield	1	X	
1.C4	Proximity to transit system	1	X	
	Bike racks & showers	1	X	
	Proximity to alternative fuel station	1	X	
	Parking capacity, carpool parking	1	X	
1.C5	Limited site disturbance , restoration	1	X	
	Reduced footprint	1	1	Project Meets Criteria - Overall development will be reduced.
1.C6	Stormwater runoff rate	1	1	
	Stormwater treatment	1	X	Project Meets Criteria - There will be no net increase of runoff quantity.
1.C7	Reduce site heat islands	1	X	
	Reduce roof heat islands	1	X	
1.C8	Reduce light pollution	1	1	Project Meets Criteria - No light is escaping the site. All lighting is kept to a minimum, and pointed to avoid any interference with aircraft.
1.C9	Optimize site features	1	1	Project Meets Criteria - All roads are being surfaced or resurfaced. Buildings are being set 6 inches above existing ground. This means cut and fill is being minimized.
1.C10	Cluster facilities	1	1	
	Mitigate offsite impacts	1	1	Project Meets Criteria - Facilities are clustered to reduce utility impact. Specifically the Ready Building is using existing electric transformer and latrine facilities. (1 point) For this project a charette and a Value Engineering process were conducted and a full design process is planned.
1.C11	Site Ecology	1	1	Project Meets Criteria -The site was walked with the North Carolina Department of Natural Resources Representatives (NCDENR) to minimize the disturbance to existing plant species, especially pine trees.
	CATEGORY 2 – WATER EFFICIENCY			
2.C1	High efficiency irrigation/recycle site water	1	X	
	No irrigation	1	1	Project Meets Criteria - There will be no irrigation system.
2.C2	Innovative wastewater technologies	1	X	
2.C3	20% Water use reduction	1	1	
	30% Water use reduction	1	X	Project Meets Criteria - The Ready Building does not have latrines, cooking facilities, or snack facilities. All these items are in existing separate buildings. The Ready Building has only drinking fountains.
	CATEGORY 3 – ENERGY AND ATMOSPHERE			
3.R1	Building commissioning	R	R	Project requirement.
3.R2	Minimum energy performance	R	R	Project requirement.
3.R3	CFC Reduction	R	R	Project requirement.
3.C1	Optimize energy performance	20	X	
3.C2	5% Onsite renewable energy	1	X	
	10% onsite renewable energy	1	X	
	15% onsite renewable energy	1	X	
	20% onsite renewable energy	1	X	
3.C3	Additional commissioning	1	X	
3.C5	Measurement and verification	1	X	
3.C6	Green power	1	X	
3.C7	Distributed generation	1	X	

PAR	SPIRIT Summary Table / FEATURE	Maximum points possible	Proposed/Earned Points	REMARKS
	CATEGORY 4 – MATERIALS AND RESOURCES			
4.R1	Storage & collection of recyclables	R	R	Project requirement.
4.C1	Building reuse	3	X	
4.C2	Reduce construction waste	1	X	
	Reduce construction waste addl	1	X	
4.C3	Salvage/reused materials	1	X	
	Salvage/reused materials addl	1	X	
4.C4	Materials recycled content	1	X	
	Additional materials recycled content	1	X	
4.C5	Regionally manufactured materials	1	X	
	Regionally extracted materials	1	X	
4.C6	Rapidly renewable materials	1	X	
4.C7	Certified wood	1	X	
	CATEGORY 5 – INDOOR ENVIRONMENTAL QUALITY			
5.R1	Minimum IAQ performance	R	R	Project requirement.
5.R2	Environmental tobacco smoke	R	R	Project requirement.
5.C1	IAQ monitoring	1	X	
5.C2	Increase ventilation effectiveness	1	X	
5.C3	SMACNA/absorptive mtls/filtration	1	1	
	Flushout/baseline IAQ test	1	X	Project Meets Criteria - The first point is achievable without additional cost to the project.
5.C4	Adhesive/sealant VOC	1	X	
	Green Seal paints & coatings	1	X	
	CRI Green Label carpet	1	X	
	No urea/formaldehyde resins	1	X	
5.C5	Indoor pollutant source control	1	X	
5.C6	Operable windows, perimeter light controls	1	X	
	Non-perimeter controls	1	X	
5.C7	ASHRAE thermal comfort stds	1	X	
	Temperature/humidity monitoring	1	X	
5.C8	75% daylighting	1	X	Project Meets Criteria - The views point in this credit is already achieved in our concept design. The day lighting point would require some additional design effort.
	90% outdoor view	1	1	
5.C9	Noise control	1	X	
5.C10	IAQ management plan	1	X	
	CATEGORY 6 – FACILITY DELIVERY PROCESS			
6.C1	Team leader experience	1	X	
	Train team	1	X	
	Identify project goals	1	1	
	Charettes	1	1	
	Resolve tradeoffs	2	2	Identified project goals and metrics. (1 point) Executed a charette for the initial design process. (1 point) Identify and resolve tradeoffs among sustainability, first costs, life cycle cost ans mission requirements through charrettes and other collaborative processes (2 points) Total Points - 4
	Document results	1	X	
	CATEGORY 7 – CURRENT MISSION			
7.C1	Develop O&M plan	2	2	
	Durable materials	1	1	

	SPIRIT Summary Table	Maximum points possible	Proposed/Earned Points	
PAR	**FEATURE**			**REMARKS**
7.C2	Quality indoor environment	1	1	
	Functional work environment	1	1	
	Healthy work environment	1	1	
	CATEGORY 8 – FUTURE MISSIONS			
8.C1	Determine functional life	1	1	
	Determine building life	1	1	
8.C2	Design for future uses	1	1	
	Minimize building size	1	1	
	TOTAL	100	29	

APPENDIX 'E’

Subsurface Exploration and Geothechnical Engineering Report (Final)

SUBSURFACE EXPLORATION
AND
GEOTECHNICAL ENGINEERING REPORT
(PRELIMINARY)

SOF TRAINING FACILITY (ROWE IV)
L.I. 59517, FY-06
Fort Bragg, North Carolina

By
Soils Section
Geotechnical & HTRW Branch
U.S. Army Engineer District, Savannah

February 2005

Revised, 14 September 2005

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SUBSURFACE EXPLORATION AND
GEOTECHNICAL ENGINEERING REPORT
(PRELIMINARY)

SOF TRAINING FACILITY (ROWE IV)
L.I. 59517, FY-06
Fort Bragg, North Carolina

February 2005
Revised, 14 September, 2005

1. PURPOSE. The Government has conducted a preliminary geotechnical investigation for the proposed project. This report provides an overview of the site conditions, including subsurface soil and ground-water conditions and preliminary recommendations pertaining to the geotechnical design and construction of the project.

2. QUALIFICATION OF REPORT. The field explorations performed for this report were made to determine the subsurface soil and ground-water conditions and were not intended to serve as an assessment of site environmental conditions. No effort was made to define, delineate, or designate any areas of environmental concern or of contamination. Any recommendations regarding drainage and earthwork construction are made on the basis that such work can be performed in accordance with applicable laws pertaining to environmental contamination.

3. PROJECT DESCRIPTION. The proposed project consists of the design, site preparation and construction of one Ready State (Isolated Unit) Building and one two-story Ready Building with four bays. The Ready State (Isolated Unit) Building will be approximately 12,250 square feet and the Ready Building will be 39,432 square feet. A Temporary pre-engineered modular building will be used for class rooms and sleeping space depending upon the needs. This building will be approximately 5,000 square feet. The objective of this project is to provide adequate facilities for the 1st Special Warfare Training Group (A) to support the Special Forces Training mission. These buildings are part of Phase IV building improvements to the Special Operations Forces (SOF) Training Camp at Camp Mackall, North Carolina.

Load Bearing CMU Walls will be utilized for the structural system in all the buildings. Interior walls will also be CMU. The roof structure will consists of standing seam metal roof on rigid insulation on galvanized metal deck. The Ready State Building and the Ready Building will have 4" concrete slab on grade placed over a compacted subgrade, a capillary water barrier, and a vapor barrier.

4. EXPLORATION PROCEDURES.

a. Site Reconnaissance. Prior to the field exploration, the site and surrounding areas were visually inspected by a geotechnical engineer. The observations were used in planning the

exploration, in determining areas of special interest, and in relating site conditions to known geologic conditions in the area.

b. Field Exploration.

(1) Subsurface conditions at the project site were explored by five soil test borings (designated B-1, B-2, B-7, B-12, and B-13) drilled at the approximate locations shown on the Boring Location Plan (Plate B-01 through Plate B-03) included in the drawings with this RFP. Depths of the borings ranged from 5 to 20 feet below existing ground surface.

(2) Boring locations were established in the field by an engineer by measuring distances and estimating right angles from the existing fences and buildings. Since the measurements were not precise, the locations shown on the boring location plan should be considered approximate.

(3) B-1, B-2, and B-7 soil test borings were drilled by Savannah District using a CME 550x drill rig. A 4-inch spiral auger and standard split spoon sampler were used to advance the boreholes. Soil sampling and Standard Penetration Testing (SPT) were in accordance with ASTM D 1586. In the Standard Penetration Test, a soil sample is obtained with a standard 1⅜ inch I.D., 2 inch O.D. split-barrel sampler. The sampler is first seated 6 inches and then driven an additional 12 inches with blows from a 140 lb. hammer falling a distance of 30 inches. The number of blows required to drive the sampler the final 12 inches is recorded and is termed the "standard penetration resistance", or the "N-value". Penetration resistance, when properly evaluated, is an index of the soil's strength, density, and foundation support capability. Ground-water levels were measured in the boreholes during drilling and after twenty-four hours of drilling.

(4) Representative portions of the soil samples from the soil test borings were taken from the field in containers and transported to the Savannah District Office. The samples were examined by an engineer to confirm the field classifications. Classification of the soil samples was performed in general accordance with ASTM D 2488 (Visual-Manual Procedure for Description of Soils). The soil classifications include the use of the Unified Soil Classification System described in ASTM D 2487 (Classification of Soils for Engineering Purposes). Since the soil descriptions and classifications are based on visual examination, they should be considered approximate.

(5) Froehling & Robertson, Inc. (F&R), under contract to the Savannah District, drilled B-12 and B-13 soil borings utilizing the Standard Penetration Test (SPT). The borings were drilled with an ATV-mounted CME 550 ATV drill rig; a 2¼-inch I.D. hollow-stem auger was used to advance the boreholes. Soil sampling and Standard Penetration Testing (SPT) were in substantial accordance with ASTM D 1586; sampling was performed at intervals shown on the boring logs. In the Standard Penetration Test (SPT), a soil sample is obtained with a standard 1½ inch I.D. by 2 inch O.D. split-barrel sampler. The sampler is first seated 6 inches and then driven an additional 12 inches with blows from a 140 pound hammer falling a distance of 30 inches. The number of blows required to drive the sampler the final 12 inches is recorded and is termed the "standard penetration resistance", or the "N-value". Penetration resistance, when properly evaluated, is an index of the soil's strength, density, and foundation support capability.

(6) Representative portions of the soil samples taken in the field for B-12 and B-13 soil test borings were sealed in airtight containers and transported to the driller's laboratory where they were examined to confirm the driller's field classifications. Classification of the soil samples was performed in general accordance with ASTM D 2488 (Visual-Manual Procedure for Description of Soils). The soil classifications include the use of the Unified Soil Classification System described in ASTM D 2487 (Classification of Soils for Engineering Purposes). Since the soil descriptions and classifications are based on visual examination, they should be considered approximate.

(7) Soil boring logs graphically depicting soil descriptions and standard penetration resistances are shown on Plate B-04 and Plate B-05 included in the drawings with this RFP.

5. SITE AND SUBSURFACE CONDITIONS.

a. Site Description

The project site is located at the northeast corner of the intersection of Special Forces Way and A-Team Road.

Ready State Building: The Ready State Building is located between A Team Road and C Street The Ready State Building is also located east of the intersection of 3rd Street and C Street. The topographic elevation ranges from approximately 333.0 to 337.6 MSL. The proposed finish floor elevations will vary by bay but are not known at this time.

Ready Building: The Ready Building is located between B Team Road and A Street and north of 5th Street. The topographic elevation ranges from approximately 333.3 to 335.5 MSL. The site generally slopes from the south to north. The proposed Ready State Building is in the vicinity of existing building numbers T-2657, -2658, -2857, and -2858. The finished floor elevation of Ready State Building is not known at this time.

b. Area and Site Geology.

Fort Bragg is situated in the Sand Hills area of the Coastal Plain physiographic province of North Carolina. The Coastal Plain extends westward from the Atlantic Ocean to the Fall Line, a distance of about 130 miles. The Fall Line is the boundary between the Coastal Plain and the Piedmont physiographic provinces. Geologic units in the area, ranging from oldest to youngest, include the Carolina Slate Belt rocks, which comprise the basement rock, the Cape Fear Formation, and the Middendorf Formation. The Cape Fear and Middendorf Formations overlie the basement rock and are part of the generally southeastward-dipping and thickening wedge of sediments that constitute the Atlantic Coastal Plain deposits. The Middendorf Formation is exposed at land surface throughout the area. The formation is composed of tan, cross-bedded, medium- and fine-grained, micaceous quartz sand and clayey sand interbedded with clay or sandy clay lenses or layers. Layers of hematite-cemented sandstone occur locally throughout the Middendorf Formation as do thin layers of hard kaolin and kaolin-cemented sandstone. Below the water table, these units are generally friable or plastic. In places, the Middendorf Formation is a mottled orange, gray, and tan color with streaks and laminae of red and purple hematite and manganese oxide stains.

c. Subsurface Conditions.

(1) Topsoil was not encountered in any of the soil test borings.

(2) The soil profile at the project site is rather homogeneous, consisting of orange, tan, or brown silty and/or clayey sands for the entire depths of borings. The soil profile below the surface consists predominantly of silty sands (SM) with an occasional interbedded thin layer of clayey sand (SC). The N values vary from 4 to 40 blows per foot (bpf).

(3) The above subsurface descriptions are of a generalized nature to highlight the major subsurface stratification features and material characteristics. The boring logs shown on the drawings should be reviewed for specific information at individual boring locations. The stratifications shown on the boring logs represent the conditions only at the actual boring locations. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between the subsurface materials; the actual transition may be gradual.

d. Ground-Water Conditions

(1) Ground-water levels were checked in the borings during drilling and again after twenty-four hours of the completion of the drilling. No ground water was encountered.

(2) Absence of ground-water data implies that no data is available but does not necessarily mean that ground water will not be encountered at the locations of those borings. Ground-water levels will fluctuate with seasonal and climatic variations, variations in subsurface soil conditions, and construction operations. Therefore, ground-water conditions in the future and at other locations on the site, may differ from the conditions encountered at the boring locations on the dates the borings were performed. Ground water may be encountered during construction at depths not indicated during this investigation.

6. ENGINEERING EVALUATIONS AND RECOMMENDATIONS.

a. General. The following conclusions and recommendations are based on the information available on the proposed structures, observations made at the project site, interpretation of the data obtained from the soil test borings, and our experience with soils and subsurface conditions similar to those encountered at the site. Since the test borings represent a very small statistical sampling of the subsurface conditions, it is possible that subsurface conditions substantially different from those indicated by the test borings could be encountered during the construction. In such instances, adjustments to the design and construction of the proposed structures might be necessary, depending on the actual conditions.

b. General Site Preparation. The demolition and removal of a fence, small buildings, and a wooden deck will be required to prepare the site for construction. Following demolition and removal, the construction areas should be grubbed and stripped of all vegetation, roots, organics, and other deleterious materials. Clean topsoil can be stockpiled and reused later in landscaped areas. It is recommended that the zone of stripping extend a minimum of 10 feet outside the outer

edges of the structures. Any existing utilities in construction areas should be located and rerouted, as necessary.

c. Foundation Design and Construction.

(1) Given the proposed site and the proposed types of structures, it is our opinion that shallow spread foundations can be used for support of the proposed buildings.

(2) Footings should be supported on the natural in-situ soils or on properly compacted structural fill. Column footings and load-bearing wall footings should have minimum width dimensions of 30 and 24 inches, respectively, and should be located at a minimum depth of 24 inches below finish floor or finish grade, as appropriate. Non load-bearing wall footings should have a minimum width of 18 inches and should be located at a depth of 18 inches below finish floor or finish grade, as appropriate.

(3) Foundation/footing excavations should be concreted as soon as practical following excavation. Exposure to the environment could weaken the soils at the footing bearing level should the foundation excavations remain open for an extended period of time. Bottoms of foundation excavations should be inspected immediately prior to placement of reinforcing steel and concrete to verify that adequate bearing soils are present and that all debris, mud, and loose, frozen or water softened soils are removed. If the bearing surface soils have been softened by surface-water intrusion or by exposure, the softened soils must be removed to firm bearing, and replaced with additional concrete during the concreting, or replaced to design subgrade with No. 57 or No. 67 stone, compacted to a non-yielding condition. To minimize the exposure, the final excavation (4 to 6 inches) to design subgrade could be delayed until just prior to placement of reinforcing steel and concreting. Foundation excavations must be maintained in a drained/dewatered condition throughout the foundation construction process.

d. Seismic Design. Seismic loads should be computed in accordance with IBC 2000, except as modified by UFC 1-200-01. The project site should be classified as Site Class D for the purpose of determining maximum considered earthquake spectral response accelerations.

e. **Concrete Slabs-On-Grade.**

(1) Based upon our past experience and the subsurface conditions encountered at the site, concrete floor slabs can be supported on in-situ soils or on fill soils placed and compacted in accordance with the specification section EARTHWORK. We recommend that all concrete slabs-on-grade be underlain by a minimum of 4 inches of open graded, washed pea gravel, or stone, often termed “capillary water barrier,” to prevent the capillary rise of ground water. Gradation Nos. 57, 67, 78, or 89 stone are suitable for this purpose. All drawings should be consistently labeled with the term “capillary water barrier” since this is the term utilized in Section EARTHWORK of the specifications. We also recommend that a moisture vapor barrier consisting of lapped polyethylene sheeting having a minimum thickness of 6 mils be provided beneath the building floor slabs to reduce the potential for slab dampness from soil moisture. Concrete slabs should be jointed around columns and along supported walls to minimize cracking due to possible differential movement.

(2) Construction activities and exposure to the environment often cause deterioration of the prepared slab-on-grade subgrade. Therefore, we recommend that the slab subgrade soil be inspected and evaluated immediately prior to floor slab construction. The evaluation might include a combination of visual observations, hand rod probing, and field density tests to verify that the subgrade has been properly prepared. If unstable soil is revealed, the affected soil should be removed to firm bearing and replaced to design subgrade with suitable structural fill soil placed and compacted as recommended, or replaced with additional capillary water barrier material.

f. Ground-Water Considerations.

(1) "Perched water" conditions could be encountered, and the accumulation of run-off water or seepage at the base of excavations may occur during foundation construction and site work. Where seepage is encountered at shallow depths, pumping from filtered sumps and/or the use of perimeter trenches to collect and discharge the water away from the work area should be utilized.

(2) Water should not be allowed to collect near the foundation or on floor slab areas of the building either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate removal of any collected rain water, ground water, or surface runoff. Positive site drainage should be provided to reduce infiltration of surface water around the perimeter of the building and beneath the floor slabs.

g. Structural Fill. In order to achieve high density structural fill, the following evaluations and recommendations are offered:

(1) Based on the soil test borings, excavated on-site soils (excluding any organics and debris) can be used as structural fill. Some moisture content adjustment will probably be necessary to achieve proper compaction. If water must be added, it should be uniformly applied and thoroughly mixed into the soil by discing.

(2) We recommend that the contractor have appropriate disc harrows on site during earthwork for both drying and wetting the soils.

(3) Materials selected for use as structural fill should be free from roots and other organic matter, trash, debris, and frozen soil and stones larger than 3 inches in any dimension. The following soils represented by their Unified Soil Classification System (ASTM D 2487) group symbols will be suitable for use as structural fill: GC, GM, SP, SW, SC, SM, ML and CL. The following soil types are considered unsuitable: Pt, OH, OL, GP, GW, MH and CH.

(4) Suitable fill soils should be placed in lifts of a maximum 8 inches loose measurement. The soil should be compacted by mechanical means such as steel drum, sheepsfoot, tamping, or rubber-tired rollers. Compaction of clays is best accomplished with a sheepsfoot or tamping roller. Periodically rolling with heavily loaded, rubber-tired equipment may be desirable to seal the surface of the compacted fill, thus reducing the potential for absorption of surface water following a rain. This sealing operation is particularly important at the end of the workday and at the end of the week. Within confined areas or foundation excavations, we recommend the use of manually operated, internal combustion activated compactors ("wacker packers" or sled tamps). The compactors should have sufficient weight and striking power to produce the same degree of

compaction that is obtained on the other portions of the fill by the rolling equipment as specified. Where hand operated equipment is used, the soils should be placed in lifts of maximum 4 inches loose measurement.

(5) We recommend the structural fill and subgrades be compacted to the following minimum percents of the modified Proctor maximum dry density (ASTM D 1557):

Beneath structures and building slabs, to 5 feet beyond building and structure line, around footings and in trenches	92 percent
Beneath paved areas, except top 12 inches	92 percent
Beneath paved areas, top 12 inches	95 percent
Beneath sidewalks and grassed areas	85 percent

h. Construction Quality Control Testing.

(1) Prior to initiating any structural fill placement and/or compaction operations, we recommend that representative samples of the soils which will be used as structural fill or subgrade, both suitable on-site soils and off-site soils (borrow), be obtained and tested to determine their classification and compaction characteristics. The samples should be carefully selected to represent the full range of soil types to be used. The moisture content, maximum dry density, optimum moisture content, grain-size and plasticity characteristics should be determined. These tests are required to determine if the fill and subgrade soils are acceptable and for compaction quality control of the subgrades and structural fill. Tests for the above soil properties should be in accordance with the following:

Moisture Content	ASTM D 2216
Maximum Dry Density and Optimum Moisture	ASTM D 1557
Grain-Size (Wash No. 200, less hydrometer)	ASTM D 422 and D 1140
Plasticity	ASTM D 4318

(2) A representative number of in-place field density tests should be performed in the subgrade of compacted on-site soils and in the structural fill and backfill to confirm that the required degree of compaction has been obtained. In-place density tests should be performed in accordance with the sand cone method prescribed in ASTM D 1556. We recommend at least one density test be performed for each 5,000 square feet, or portion thereof, of compacted existing on-site soils, subgrades, and in each lift of compacted structural fill. We also recommend that at least one density test be performed for each 100 linear feet in the bearing level soils of continuous footings. In addition, a density test should be performed for each 100 linear feet of backfill placed per foot of depth in trenches for utilities systems. Where other areas are compacted separately by manually operated compactors, a minimum of one density test should be performed for every 250 square feet, or portion thereof, of fill placed per foot of depth.

(3) Compaction control of soils requires the comparison of fill water content and dry density values obtained in the field density tests with optimum water content and maximum dry density. The performance of a laboratory compaction test on material from each field density test would provide the most accurate relation of the in-place material to optimum water content and maximum density, but it is not feasible to do this as the testing could not keep pace with fill construction. We recommend that compaction control of the earthwork construction be performed using a "family" of compaction curves and the one-point or two-point compaction methods. Excerpts from construction specifications, which describe the approach and its use, are included in the Appendix.

(4) Any area that does not meet the required compaction criteria should be reworked, and retested. If the moisture content of the soil is within the recommended range, additional compaction may be all that is necessary to increase the density. If the moisture content is not within the recommended range, then, the moisture content should be adjusted to within the range, and the area recompacted.

(5) All laboratory and field density testing should be performed by an approved commercial testing laboratory qualified in this type of work.

i. Specification: The AE/Contractor shall use Savannah District guide specification 02300S, Earthwork, as part of the contract specifications. Note that this guide specification must be obtained from Savannah District as it has been modified from the original CEGS guide.

APPENDIX

One-Point and Two-Point Compaction Methods

Compaction Control

For fine grained (clayey and silty) soils and for sands with appreciable fines such that normal shaped compaction curves are obtained, results of all compaction tests shall be plotted on a common plot as a family of curves. For each field density test performed, a one-point compaction test, with additional points as needed, shall be performed on the same material on which the field density test was conducted. The one-point compaction test shall be performed on the dry side of the optimum moisture content. For comparison of field density data to the proper laboratory compaction test results, the procedures for the one-point and/or two-point compaction control methods as described in paragraph Compaction Procedure, shall be used. Compaction curves plotted on the family of curves shall be of such a scale that the optimum moisture content can be interpreted to the nearest 0.1 percent and the maximum dry density can be interpreted to the nearest 0.1 pcf(or 2 kg/m^3). When a one-point test plots outside the range of the family of curves, an additional five-point compaction test shall be performed.

Compaction Procedure

General

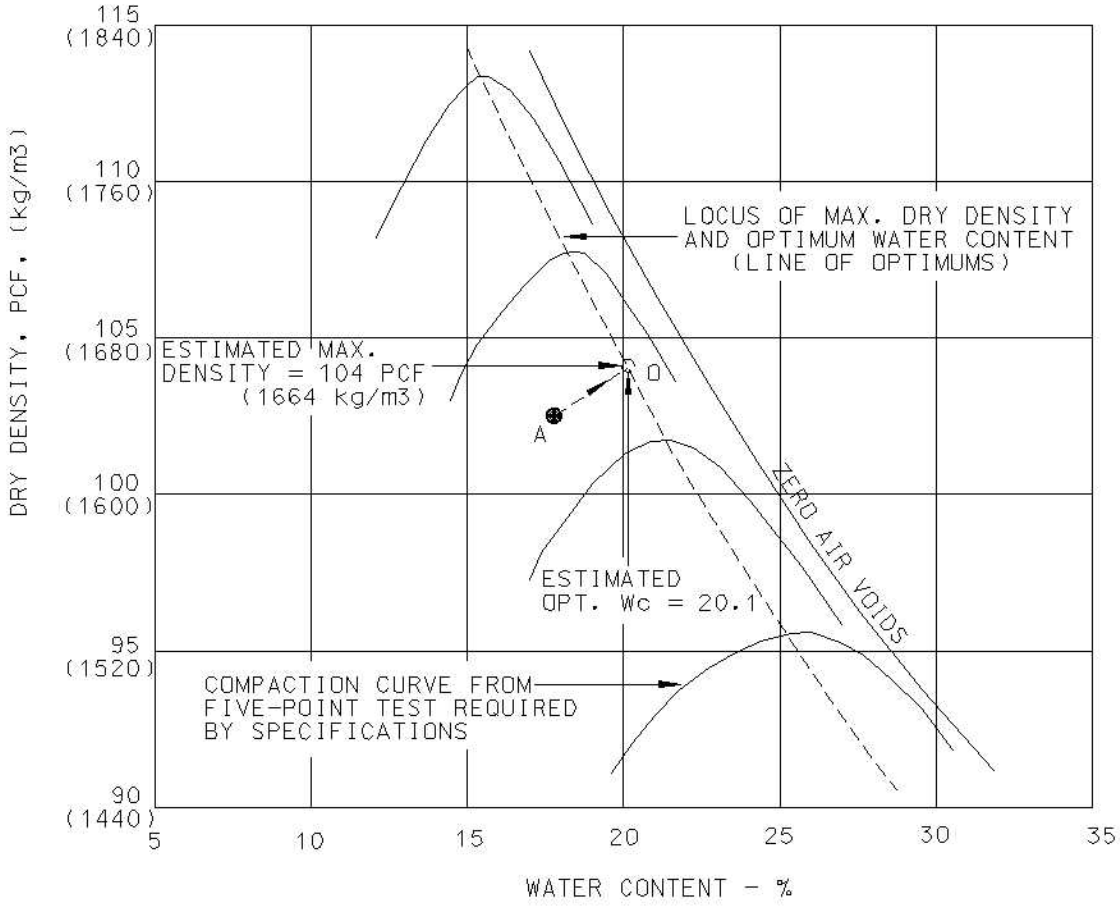
The following paragraphs describe methods of relating field density data to desired or specified values. Compaction control of soils requires comparison of fill water content and/or dry density values obtained in field density tests with optimum water content and/or maximum dry density. At a minimum, control shall be in accordance with the One-Point Compaction Method. Where conditions require, the Two-Point Compaction Method shall be used.

One-Point Compaction Method

The material from the field density test is allowed to dry to a water content on the dry side of estimated optimum and then compacted using the same equipment and procedures used in the five-point compaction test. Thorough mixing is required to obtain uniform drying; otherwise, results obtained may be erroneous. The water content and dry density of the compacted sample are determined and then used to estimate its optimum water content and maximum dry density as illustrated in Figure 1 at the end of this section. In Figure 1, the line of optimums is well defined and the compaction curves are approximately parallel to each other, consequently, the one-point compaction method could be used with a relatively high degree of confidence. However, in Figure 2 at the end of this section, the curves are not parallel to each other and in several instances will cross if extended on the dry side. Consequently, the correct curve cannot be determined from the one-point method; therefore, the two-point compaction method should be used. The one-point method should be used only when the data define a relatively good line of optimums.

Two-Point Compaction Method

In the two-point test, one sample of material from the location of the field density test is compacted at the fill water content if thought to be at or on the dry side of optimum water content (otherwise, reduced by drying to this condition) using the same equipment and procedures used in the five-point compaction test. A second sample of material is allowed to dry back about 2 to 3 percentage points dry of the water content of the first sample and then compacted in the same manner. At least one point shall fall within 3 percent of the line of optimums. After compaction, the water contents and dry densities for the two samples are determined. The results are used to identify the appropriate compaction curve for the material being tested as shown in Figure 2 at the end of this section. The data shown in Figure 2 warrant the use of the two-point compaction test because the five-point compaction curves are not parallel. Using point A only, as in the one-point test method, would result in appreciable error as the shape of the curve would not be defined. The estimated compaction curve can be more accurately defined by two compaction points.



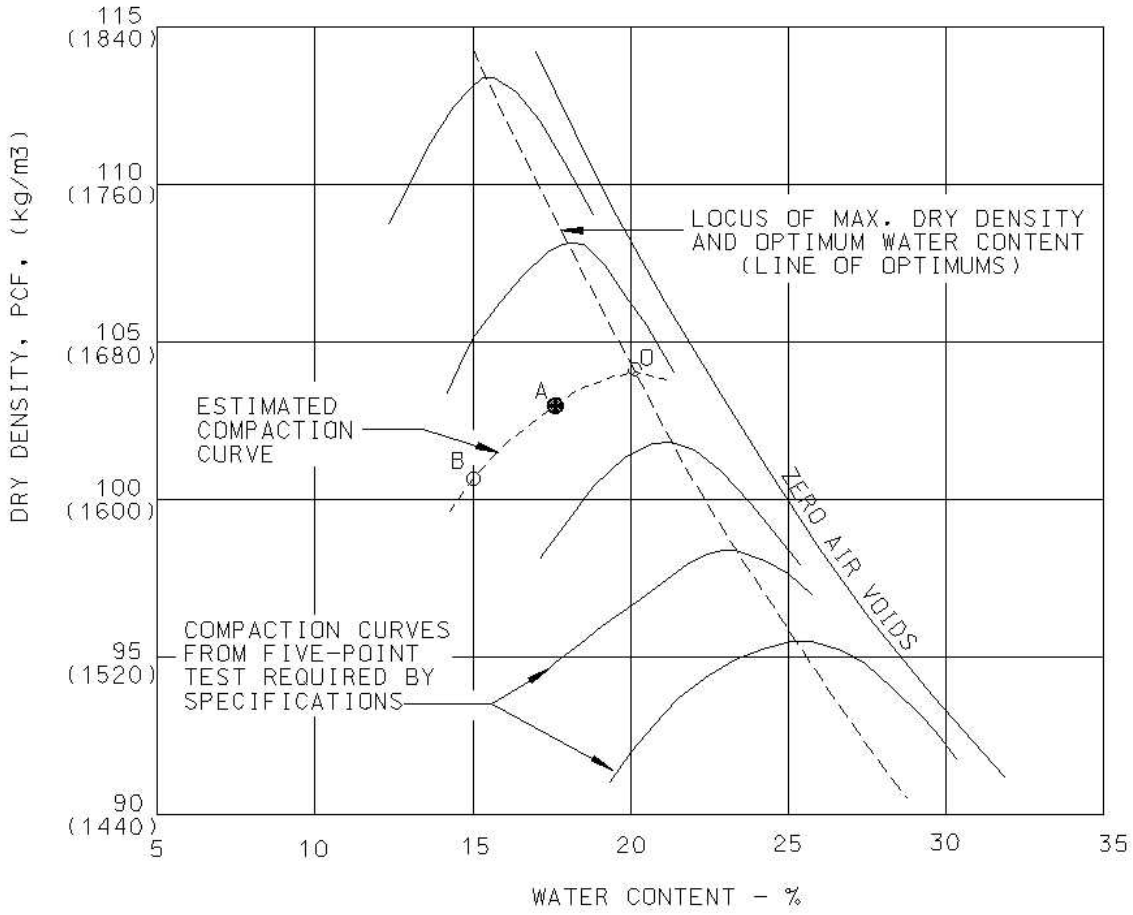
PROCEDURE:

1. Point A is the result of a one-point compaction test on material from field density test. This point must be on the dry side of optimum water content.

2. Point O is the estimated optimum water content and maximum density of the fill material based on a projection of point A approximately parallel to the adjacent compaction curves.

3. Point A must plot within 3 percent of the line of optimums.

Figure 1. Illustration of one-point compaction method.



PROCEDURE:

1. Points A and B are results of a two-point compaction test on material from field density test. Points A and B must be on the dry side of optimum water content.

2. The estimated compaction curve based on Points A and B establishes Point O on the locus, which is the estimated maximum dry density and optimum water content of the fill material.

3. One point must plot within 3 percent of the line of optimums.

Figure 2. Illustration of two-point compaction method.

APPENDIX 'F’

Finish Requirements Schedule

ROOM FINISH SCHEDULE

MARK/ROOM NAME	FLOOR	BASE	WALLS	WAIN	CEILING	CEILING HEIGHT	REMARKS
101 Sleep Room 1A	CWCHS		PCMU		ACT		
102 Sleep Room 1B	CWCHS		PCMU		ACT		
103 Sleep Room 1C	CWCHS		PCMU		ACT	9'-0"	
104 Sleep Room 1D	CWCHS		PCMU		ACT	9'-0"	
105 Sleep Room 1E	CWCHS		PCMU		ACT		
106 Sleep Room 1D	CWCHS		PCMU		ACT		
107 Mechanical Room 1	CWCHS		PCMU		PEXP		
108 Stair 1	CWCHS		PCMU		PEXP		
109 Stair 2	CWCHS		PCMU		PEXP		
110 Mechanical Room 2	CWCHS		PCMU		PEXP	PEXP	
111 Stair 3	CWCHS		PCMU		PEXP	PEXP	
112 Electric Room 1	CWCHS		PCMU		PEXP	PEXP	
113 Jan Closet 1	CWCHS		PCMU		PEXP	PEXP	
114 NIPRNET	CWCHS		PCMU		PEXP	PEXP	
115 SIPRNET	CWCHS		PCMU		PEXP	PEXP	
115 Vesitbule	CWCHS		PCMU		PEXP	PEXP	
201 Sleep Room 2A	CWCHS		PCMU		ACT		
202 Sleep Room 2B	CWCHS		PCMU		ACT	9'-0"	
203 Sleep Room 2C	CWCHS		PCMU		ACT	9'-0"	
204 Sleep Room 2D	CWCHS		PCMU		ACT	9'-0"	
205 Sleep Room 2E	CWCHS		PCMU		ACT	9'-0"	
206 Sleep Room 2F	CWCHS		PCMU		ACT	9'-0"	
207 Mechanical Room 3	CWCHS		PCMU		PEXP	PEXP	
208 Stair 1	CWCHS		PCMU		PEXP	PEXP	
209 Stair 2	CWCHS		PCMU		PEXP	PEXP	
210 Mechanical Room 4	CWCHS		PCMU		PEXP	PEXP	
211 Stair Room 3	CWCHS		PCMU		PEXP	PEXP	
212 Electrical Room 2	CWCHS		PCMU		PEXP	PEXP	
213 Jan Closet 2	CWCHS		PCMU		PEXP	PEXP	
214 Niprnet	CWCHS		PCMU		PEXP	PEXP	
215 Siprnet	CWCHS		PCMU		PEXP	PEXP	
216 Vesitbule	CWCHS		PCMU		PEXP	PEXP	

Abbreviation Legend

ACT-Accoustical Ceiling Tile
PCMU- Painted Concrete Masonry Unit
CWCHS-Concrete With Integral Color Hardener & Sealer
PEXP- Exposed Structure

APPENDIX 'G’

Interior Design Presentation Format / GSA Best Value Determination (BVD) Form / GOVWORKS BVD form and IDG Section 15 (Unicor Waiver)

US Army Corps
of Engineers
Savannah District

Interior Design Presentation Format

February 1999

U.S. ARMY ENGINEER DISTRICT, SAVANNAH
CORPS OF ENGINEERS
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3640

THE SAVANNAH DISTRICT'S MANUAL
FOR INTERIOR DESIGN PRESENTATION

THE SAVANNAH DISTRICT'S MANUAL
FOR INTERIOR DESIGN PRESENTATION FORMAT

A. This format is required in accordance with THE SAVANNAH DISTRICT DESIGN MANUAL section 10.8.9. And is developed in accordance with Air Force and Army interior design requirements for SID/CID submittals.

B. SID/CID PACKAGES RUN CONCURRENT WITH THE ARCHITECTURAL SUBMITTALS.

C. "Checklists for Reviews" and "Lessons Learned" are to be used to ensure all required information is included in the Contract Documents, the SID/CID presentation binders and to achieve customer satisfaction.

D. The General Contractor will not be receiving the 8 ½" X 11" SID/CID binders. Verify that all graphic illustrations such as carpet borders, ceramic tile patterns, accent color placement, millwork details and prewired furniture finished and details are on the contract drawings.

E. DO NOT REFERENCE THE SID/CID BINDERS IN THE CONTRACT DOCUMENTS.

F. THIS INFORMATION IS NOT OPTIONAL WHEN PRESENTING A SID/CID SUBMITTAL FOR REVIEW and FINAL DESIGN.

G. The Interior Design Point of Contact for the Savannah District is:

U.S. Army Corps of Engineers
ATTN: EN-DA/Peggy Roberson
100 W. Oglethorpe Avenue
Savannah, GA 31402-0889
COMM (912) 652-5544 FAX (912) 652-5891

GOVERNMENT CONTRACTING TERMS

ARMY	AIR FORCE	DEFINITION
MCA	**MILCON**	**MILITARY CONSTRUCTION** funds appropriated by Congress for new construction-fixed price contracts.
OMA	**O & M**	**OPERATION** AND **MAINTENANCE** funds provided to each installation by the Major Command and used for the day to day operations of the installation. These funds may be used for the renovation of existing buildings or for the purchase of furniture. Funds not spent to award a contract disappear at the end of the FY and cannot be recovered.
FY	**FY**	**FISCAL YEAR:** (A) October 1 through September 30 per the calendar. **(B)** If the project title begins with "FY- . ." This identifies the year Congress will fund the construction Contract Award.
PD	**PD**	**PROJECT DEFINITION:** A conceptual design of the proposed project (floor plans, elevations, cost estimate).
DD FORM 1391	**DD FORM 1391**	A programming document initiated by the installation; passed through the Major Command on to Congress for funding. The **1391** outlines basic needs for a proposed facility and an estimated cost to reach those needs.
JOC	**SABER**	**JOB ORDER CONTRACT OR SIMPLIFIED ACQUISITION OF BASE ENGINEERING REQUIREMENTS:** The installation's method to contract for repair work. Unit prices are agreed upon with a Contractor then individual job orders are negotiated for specific scopes of repair work.

GOVERNMENT CONTRACTING TERMS

ARMY	AIR FORCE	DEFINITION
CBD	**CBD**	**COMMERCE** AND **BUSINESS DAILY:** The federal government's "want ads". Advanced notice of contracting actions & requests for A-E Services.
IFB	**IFB**	**INVITATION FOR BID:** Standard contract procedures with clearly defined requirements, specifications and terms that are not negotiated. Any proposal prepared in response to an IFB must strictly adhered to the terms. Award is based on the lowest bid meeting the requirements and specifications.
RFP **RFQ**	**RFP** **RFQ**	A **REQUEST FOR PROPOSAL** is flexible in contrast to an IFB. It usually defines a problem and allows those who respond to the RFP to suggest a solution.
DESIGN BUILD	**DESIGN BUILD**	A **REQUEST FOR QUOTES** is an informal request for price for standard item. Using the RFP format, performance requirements are outlined; the Construction Contractor and A-E subcontractor are responsibility for the design of specifics to meet performance requirements.
APPENDIX A	**APPENDIX A**	The contractual scope of work for A-E contracts which outlines basic requirements includes specific deliverables and the schedule of design submittals.
SF 254 & 255	**SF 254 & 255**	**STANDARD FORMS** to provide resume information to the government regarding the qualifications of A-E's responding to a CBD announcement.

GOVERNMENT CONTRACTING TERMS

ARMY	AIR FORCE	DEFINITION
SID	**SID**	**STRUCTURAL INTERIOR DESIGN:** Building related finishes; funded with MCA or MILCON dollars; Building Materials and finishes are purchased and installed by the General Contractor; a submittal with samples of proposed building materials being used on a particular project.
CID	**CID**	**COMPREHENSIVE INTERIOR DESIGN:** Furniture related; funded with OMA or O & M dollars: a submittal with furniture illustrations, fabric & finish samples, footprint plans, and furniture ordering information. Purchased by the installation and not by the General Contractor.
PREWIRED WORKSTATION	**PREWIRED WORKSTATION**	**PREWIRED WORKSTATION** is the term used to identify systems furniture purchased with MCA or MILCON funds. The designers will coordinate the footprint plans with the buildings systems and provide the plans and specifications in the contact documents. The General Contractor will purchase and install this furniture.
SYSTEM FURNITURE	**SYSTEM FURNITURE**	**SYSTEMS FURNITURE** is the term used to identify systems furniture purchased with OMA or O& M dollars. The designer will coordinate the footprint plans with the Building systems and provide the plans in the contract documents for "information only. **'I** Procurement information will appear in the CID and will be purchased by the installation.

ARMY	AIR FORCE	DEFINITION
FAR	**FAR**	**FEDERAL ACQUISITION REGULATIONS:** The laws outlining how the government buys products and services. Title 18 of the U.S.Code allows for direct purchase from UNICOR without competitive bids. (FAR) 8.6 identifies UNICOR as a mandatory procurement source to all federal agencies for products that meet the requirements of the ordering office.
FSS	**FSS**	**FEDERAL SUPPLY SCHEDULES** provides indefinite quantity contracts for commercial items at established prices for direct ordering use by government agencies. Address: Furniture Commodity Center (3FN-CO): Crystal Mall 4, RM 403, Washington DC 20406 (703) 305-5056.
UNICOR	**UNICOR**	**UNICOR** is the trade name for the Federal Prison Industries Inc (FPI) a wholly owned government corporation est. in 1934. UNICOR provides a variety of products and services to the Federal Government.
GSA FSC/FSG	**GSA FSC/FSG**	**GENERAL SERVICES ADMINISTRATION** **FEDERAL SUPPLY CLASSES** **FEDERAL SUPPLY GROUPS** are government contracts with private manufacturers that are fixed price, fixed MOL and fixed dates of expirations. GSA CENTRALIZED MAILING LIST SERVICE (7CAFL); PO BOX 6477 FT. WORTH. TX 76115 (817) 334-5215

GOVERNMENT CONTRACTING TERMS

ARMY	AIR FORCE	DEFINITION
MOL	**MOL**	MAXIMDM **ORDER of LIMITATION:** **GSA** FSC/FSC contracts have a ceiling contract dollar amount that can be purchased from a vendor.
OPEN MARKET	**OPEN MARKET**	**OPEN MARKET** is the term indicating products that are not on a **GSA** contract.
ENVIRONMENTAL PRODUCTS GUIDE	**ENVIRONMENTAL PRODUCTS GUIDE**	**GSA** CATALOG SUPPLY ITEMS **GSA** CENTRALIZED MAILING LIST SERVICE (7CAFL); PO BOX 6477 FT. WORTH, TX 76115 (8x7) 334-5215
FSN 595B	**FSN 595B**	**FEDERAL STANDARD NUMBER 595B A** Collection of standard colors used by the various departments or agencies.. Colors have been classified in three categories: 1 is full gloss, 2 is semi gloss and 3 is flat.
FSN 595B FAN DECK	**FSN 595B FAN DECK**	Standard colors are available in a booklet for under **$10.00.** Order number NSN 7690-01-162-2210 **GSA** Specification Unit (3F-BP-W) Seventh and **D** Sts SW Washington DC 20407

INTERIOR DESIGN PRESENTATION FORMAT

GENERAL NOTES

1. DEFINITIONS:

1.1 STRUCTURAL INTERIOR DESIGN (SID): Structural Interior Design is the term referring to the building related finishes. A SID shall involve the selection and sampling of all applied finishes necessary to complete required, the SID shall also include all prewired workstation drawings and specifications. All SID information shall be presented in a 3-ring Binder, 8 ½ x 11" format. The products sampled in the SID are to be purchased by the General Contractor and are MCA or MILCON funded.

1.2 COMPREHENSIVE INTERIOR DESIGN (CID): Comprehensive Interior Design is the term referring to the furniture related finishes. A CID shall involve the selection and sampling of all the furnishings components necessary to complete the interior environment. The CID shall generally include all free standing furnishings, accessories, Furniture Cost Estimate and generic Order Forms. The products illustrated in the CID are purchased by the installation and are OMA or O&M funded.

1.3 When a "CID Package" is required in the DD Form 1391 and/or the Appendix A, the A/E shall provide to the Government both the SID/ CID illustrated information in the required 8-1/2 X 11 format.

2 . TECHNICAL NOTES:

2.1 SPECIAL REQUIREMENTS: The Interior Designer shall identify items in the SID or CID that require attachment to the building either by cutting or fitting. The Designer must prepare specifications and drawings for this service to be performed.

2.2 DISCLAIMER: Guide Specification 09000 or 09915 Exterior/Interior Finish Schedule indicates all product trade names and colors used for the project. The nonproprietary declaimer indicated within this Guide Specification may also be located on the Finish Schedule of the Contact Drawings.

2.3 FEDERAL STANDARD 595b COLORS (FSN 595b): The use of the Federal Standard Colors is required when indicating exterior colors used on roofs and trim. The use of Federal Standard Colors is not required when indicating interior colors. EXCEPTION: Hurlburt Field, FL requires both exterior and interior paint colors to be indicated with the FSN 595b code.

2.4 CID FURNITURE RESOURCE: Every effort should be made to use UNICOR, GSA Stock or Federal Supply Schedule items. However, when the Interior Designer determines CID items available on FSS/GSA contract or from UNICOR do not meet the functional requirements or there is no current FSS/GSA/ UNICOR resource for a furniture requirement, a waiver to use an Open Market source is required. The Designer shall write a waiver/justification letter (Paragraph 15).

This letter shall be included in the CID Binder; attached to the required Order Form. The Government will process the waiver.

3. SIGNAGE:
Signage is critical to "pathway finding" and is to meet the requirements indicated in the American With Disabilities Act unless directed by the client to do otherwise.

Indicate on separate signage drawings the typical plaque sizes, types locations, and the message for all signage. Submit a sample of the signage color in the SID.

4. SID/CID SUBMITTAL REQUIREMENTS

4.1 The Interior Designer shall be involved in all phases of the design in order to ensure customer satisfaction.

4.2 REVIEWS: During each phase of the project all SID/CID Binders shall be reviewed by the Government with written and annotated comments being issued back to the A/E. This is done in Projnet/DrChecks. See the Savannah District Design Manual for further instructions on this Internet database. These annotated comments are to be incorporated into the next SID/CID Binder update. A printed hard copy of responses from the Interior Designer are to be included in the front inside pocket of the first volume of the SID Binder.

4.3 FORMAT: Submit all SID/CID information and samples on 8-1/2″x 11" color boards with a maximum spread of 25-1/2" for foldouts.
-
Each binder shall be labeled on the outside spine and front cover with the Phase %, SID or CID, Project title, Location, Date, and A/E firm. Indicate the volume number (example: Vol. 1 of 3).

Each sheet shall be labeled with the Date, Project Tile, Location, A/E firm.

4.3.1 The color boards shall support and anchor all samples. Anchor large or heavy samples with mechanical fasteners or with Velcro. Rubber cement or glue will not be acceptable.

4.3.2 Assemble the 8 1/2" x 11" pages and color boards in a 3-ring binder.

4.3.3 Material and finish samples must indicate true pattern, color and texture. Carpet samples must be large enough to indicate a complete pattern or design.

4.3.4 Photographs or colored photocopies of SID materials or CID fabrics will be disapproved. Color photocopies of artwork are accepted.

4.4 REVISIONS: The Interior Designer shall revise the binders after each review to satisfy review comments. Printed information on existing pages can be updated with "white-out" for cost effective reasons. If the binders are not returned to the A/E for in-house update, the A/E may provide updated inserts to the Government.

4.5 RENDERINGS: Verify that renderings are a contract requirement. All renderings shall be provided by a professional illustrator.

4.6 BLACK AND WHITE SKETCHES: Verify that B&W Sketches are a contract requirement. If they are required, emphasize space-relationships, furnishings, patterns and texture. One major area is to be illustrated and possibly used as a basis for the interior color rendering for the final design.

4.7 SEQUENCE: Organize the SID/CID Binder presentation according to the following sequence:

SEQUENCE OF SID SUBMITTAL

1. TITLE PAGE

2. TABLE OF CONTENTS

3. NARRATIVE OF INTERIOR DESIGN OBJECTIVES

4. EXTERIOR ELEVATION

5. EXTERIOR BUILDING MATERIAL LEGEND

6. EXTERIOR BUILDING MATERIAL COLOR BOARD

7. INTERIOR COLOR PLACEMENT PLAN
   (Half size drawing or 8 1/2" X 11")

8. INTERIOR COLOR BOARDS (according color placement plan)

9. INTERIOR SIGNAGE COLOR BOARDS

10. PREWIRED WORKSTATION COLOR BOARDS

11. INTERIOR FLOOR PLANS

12. ROOM FINISH SCHEDULES

13. SIGNAGE PLANS

14.PREWIRED WORKSTATION COMPOSITE FLOOR PLAN

15. PREWIRED WORKSTATION PANEL PLAN

16. PREWIRED WORKSTATION ELECTRICAL/VOICE/DATA PLAN

17. PREWIRED WORKSTATION ELEVATION AND INVENTORY DRAWINGS

SEQUENCE OF CID SUBMITTAL

18. TITLE PAGE

19. TABLE OF CONTENTS

20. NARRATIVE OF INTERIOR DESIGN OBJECTIVES

21. PHOTO OF INTERIOR COLOR RENDERING (only if required by contract)

22. BLACK AND WHITE SKETCH PERSPECTIVE(on1y if required by contract)

23. COMPOSITE FURNITURE PLANS WITH CONVENTIONAL AND SYSTEMS FURNITURE (full size sheet 1/8" scale. Note: provide all systems furniture plans in the contact drawings and indicate "for information only." This is only if the user is buying and installing the systems furniture. Drawing requirements are the same as indicated in items 11-15 of the SID Sequence.

24. MANUFACTURE'S SUMMARY LISTS

25. FURNITURE LOCATION CODE INDEX

26. CONVENTIONAL FURNITURE PLACEMENT PLANS (1/4" scale)

27. CONVENTIONAL FURNITURE ILLUSTRATION SHEETS

28. ARTWORK ILLUSTRATION SHEETS AND PLACEMENT PLAN

29. ITEMIZED FURNITURE COST ESTIMATE

30. INTERIOR FURNISHING ORDER FORMS

31. LETTER OF JUSTIFICATION FOR WAIVER

5. SID/CID SUBMITTAL MATRIX SUMMARY

INTERIOR DESIGN SUBMITTALS RUN CONCURRENT WITH ARCHITECTURAL SUBMITTALS

		DESIGN PHASE			
ITEM	DESCRIPTION	35%	65%	95%	100% RTA
1.	TITLE PAGE	X	X	X	X
2.	TABLE OF CONTENTS (SID)	X	X	X	X
3.	NARRATIVE (SID)	X	X	X	X
4.	EXTERIOR ELEVATIONS	X	X	X	X
5.	EXTERIOR MATERIAL LEGEND	X	X	X	X
6.	EXTERIOR COLOR BOARDS	X	X	X	X
7.	INTERIOR COLOR PLACEMENT PLAN	X	X	X	X
8.	INTERIOR COLOR BOARDS	X	X	X	X
9.	SIGNAGE COLOR BOARD	X	X	X	X
10.	WORKSTATION COLOR BOARDS	X	X	X	X
11.	INTERIOR FLOOR PLANS	X	X	X	X
12.	ROOM FINISH SCHEDULE	X	X	X	X
13.	SIGNAGE PLANS	X	X	X	X
14.	PREWIRED WORKSTATIONS COMPOSITE FLOOR PLAN	X	X	X	X
15.	PREWIRED WORKSTATION PANEL PLANS	X	X	X	X
16.	PREWIRED WORKSTATION ELECTRICAL/VOICE/DATA PLANS	X	X	X	X
17.	WORKSTATION ELEVATIONS AND INVENTORY DRAWINGS			X	X
18.	TITLE PAGE (CID)	X	X	X	X
19.	TABLE OF CONTENTS	X	X	X	X
20	NARRATIVE	X	X	X	X
21.	PHOTO OF PROPOSED RENDERING TECHNIQUE (APPROVAL NEEDED)	X			
21a.	FINAL INTERIOR RENDERING			X	X

5. Con't. SID/CID SUBMITTAL MATRIX SUMMARY

INTERIOR DESIGN SUBMITTALS RUN CONCURRENT WITH ARCHITECTURAL SUBMITTALS

		DESIGN PHASE			
ITEM	DESCRIPTION	35%	65%	95%	100% RTA
22.	BLACK AND WHITE SKETCHES (ONE SHALL BE APPROVED FOR THE INTERIIOR RENDERING)		X	X	X
23.	COMPOSITE AND SYSTEMS FURNITURE PLANS	X	X	X	X
24.	MANUFACTURER'S SUMMARY LIST			X	X
25.	FURNITURE LOCATION CODE (ONE MAJOR AREA)	X			
25A.	FURNITURE LOCATION CODES (ALL AREAS)		X	X	X
26.	FURNITURE PLACEMENT PLANS (ONE MAJOR AREA)	X			
26A.	FURNITURE PLACEMENT PLANS (ALL AREAS)		X	X	X
27.	FURNITURE INSTALLATION SHEETS (ONE MAJOR AREA)	X			
27A.	FURNITURE INSTALLATION SHEETS (ALL AREAS)		X	X	X
28.	ARTWORK ILLUSTRATION SHEETS (PUBLIC AREAS ONLY, ARTWORK NOT REQUIRED IN PRIVATE OFFICES).			X	X
29.	ITEMIZED COST ESTIMATE		X	X	X
30.	FURNITURE ORDER FORMS (ONE MAJOR AREA)	X			
30A.	FURNITURE ORDER FORMS (ALL AREAS)			X	X
31.	LETTERS OF JUSTIFICATION		X	X	X

6. TYPICAL CID FURNISHINGS AND COST GUIDELINES

6.1 CID FURNISHINGS

ADP tables/printer stands
Acoustical Partial Height Partitions 6' of less in height - freestanding
Artwork
Beds/wall units/ night stands/ chests/ refrigerators
Bedspreads/bedding
Bookcases
Bulletin board/ projection screens (If NOT attached to structure.)
Carts
Chairs - all kinds, including stools
Desks - freestanding
Drafting tables
Draperies
Files - all kinds
Library furniture - book stacks/card files/ study carrels
Modular desk units
Podium/ lecture stands
Systems furniture workstations (If not in SID)
Planters/art/waste & ash receptacles
Storage - all kinds
Tables - all kinds
Upholstered lounge seating (sofas, etc.)
Wardrobes

6.2 FURNISHINGS COST GUIDELINES

The figures are based on an Air Force FY 88 Costs Guide and an inflation factor of 5% per year should be included for subsequent years. These guidelines are for actual items (furniture, window treatments, accessories, etc.) and they do not include other associated cost such as contractor's overhead, profit and shipping.

Overseas Consideration: If local items are used prices may vary from country to country and may vary depending on the current exchange rates.

FACILITY TYPE	$/SOUARE FEET
Administration Space (Conventional Furn)	$ 7.00 - $15.00
Administration Space (Systems Furn)	$33.00 - *
Airmen Club (Not incl kitchen equip)	$14.00
Alert Facilities	$12.00

Auditorium	$35.00
Base Ops DV Lounge	$18.00
Billeting Office	$15.00
Chief Suite (Billeting)	$17.00
Child Development Center	$13.00
Classroom	$20.00
Clinic/Dental Clinic (not incl equip)	$35.00
Conference Room	$18.00
Dining Facility (incl kitchen equip)	$35.00-$45.00
Dining Facility (not incl kitchen equip)	$15.00
DV Suite (Billeting)	$24.00
Flight .Training Center	$30.00
Family Housing Office	$14.00
Golf Clubhouse	$12.00
Intelligence Training Center	$30.00
Medical Training Center	$30.00
Package Store	$28.00
NC Officer Mess (Not incl Kitchen equip)	$17.00
Officer Open Mess (Not incl Kitchen equip)	$17.00
Recreation Center	$11.00
Transient Living Facility	$15.00
Unenlisted Personnel Housing	$16.00*

Visiting Airman Quarters	$13.00
Visiting Officers Quarters	$16.00*
Yacht Clubhouse	$12.00
Youth Center	$12.00

FACILITY TYPE	$/SOUARE FEET
*UNIT BUDGET GUIDES	
Admin Space (Systems Furn)	1994 price ($4,000/per workstation) incl install(ergo chair $350.00)
1988 Price	
Billeting Office/Lobby	$14,000-$16,000 refinish existing. $35.0000-50,000 for new
Distinguished Visitor Suite	$15,000 per one bedroom suite $20,000 per two bedroom suite $37,000 per 2/3 bedroom apartment
Transient Living Facility One Bedroom, Living/Dining 525 sq feet (new construction).	$15,000 per standard unit
Dorms Unaccompanied Enlisted	$2,500-$3,500 Per person
Personnel Housing	
UOPH	$ 7,000 per single unit
VAQ	$ 6,000 per double occupancy
VOQ	$ 5,000 per single occupancy $ 8,000 per single Suite $11,000 per double Suite

PARAGRAPHS 7-15 EXPLAIN THE FORMAT REOUIRED FOR THE FOLLOWING:

7. PREWIRED AND SYSTEMS FURNITURE WORKSTATIONS
8. MANUFACTURE'S SUMMARY LIST
9. FURNITURE LOCATION CODES
10. FURNITURE ILLUSTRATION SHEETS
11. FURNITURE PLACEMENT PLANS
12. ARTWORK
13. FURNITURE COST SUMMARY

14. ORDER FORMS
15. LETTER OF WAIVER JUSTIFICATION

7. PREWIRED AND SYSTEMS FURNITURE

7.1 General

Prewired and or systems furniture workstations shall be designed with generic components and work surfaces that are typically sold by various manufacturers of systems furniture. Indicate on the contract drawings one manufacture's name and finishes as a bases for design. This will provide a general of range colors for competitive bid purposes. Indicate in the Guide Specifications 12640 Prewired Workstations, the fabric width, fiber content, and construction method. DO NOT INDICATE A VENDOR IN THE SPECIFICATIONS. INDICATE A VENDOR ONLY ON THE DRAWINGS.

7.2. COMPOSITE FLOOR PLAN

A Composite floor plan shall show the all panels, components and free-standing furniture in relationship to the building and the building system-s such as light switches and mechanical devices.

7.3. PANEL PLAN

The panel plan shall indicate a panel symbol legend, all panel placements, critical dimensions of aisles widths and critical dimensions in relation to the building's structure and the building's n electrical/mechanical system devices and the panels. Each panel shall be noted as follows:

N (non-power) Width (in feet) Height (in inches)
or
P (power)

Example: a non-powered panel 2 feet wide and 68 inches high will be noted on the plan N 2 68

7.4 ELECTRICAL, VOICE AND DATA PLAN

The Electrical, voice and data plans shall indicate all panel placements, a symbol legend, and all receptacles used in each workstation. This plan shall also indicate the height and location of the building's light switches and building's mechanical control devices like thermostats. Provide a general note that on the "PREWIRED WORKSTATION plans" are to be coordinated with the Communication and Mechanical Engineering Plans.

7.5 ELEVATIONS AND INVENTORY PLAN

The Elevation and inventory drawings shall illustrate each typical workstation in elevation form with a related inventory list of all panels and components used to build the typical. The inventory fist shall be generic in description.

7.6 FINISHES

It is suggested when selecting finishes for prewired workstations that only two (2) fabric colors be used: one color for all panels and one color for tack boards. A third color can be used as a means of "way finding" for large open office projects.

7.7 COST

The average cost of a prewired workstation is $4000.00. Do not exceed this average cost figure or the project will be rejected. Verify line item 10 in the 1391 for a line item total cost of the prewired workstations appropriated for the project.

7 . 8 WORKSTATION LOCATION CODE

Each and every workstation will be identified on each plan with a single alpha identification code to indicate the "Typical". For example all like reception stations are "A" and like offices are "B". Every workstation shall have a "room number" that is separate and apart from the fixed room numbering system. This is to provide consistent workstation identification throughout all drawings. An example would be “A-100” “B-101” “B-102” “B-103”

7.9 PREWIRED WORKSTATION PACKAGE ITEMS

1. Panels
1.1 Acoustical/non-acoustical
1.2 Powered/non-powered
1.3 Connecting hardware

2. Components
2.1 Work surfaces
2.2 Drawers
2.3 Shelves(with doors/ without doors)
2.4 Files (lateral, panel hung/ bins)
2.5 Task Lights/special purpose
2.6 Counter tops
2.7 Drafting surface

3. Accessories
3.1 Tack boards
3.2 Locks
3.3 Shelf dividers
3.4 Reader Stand
3.5 Paper flow devices
3.6 Marker boards
3.7 Computer turntable
3.8 Printer stand
3.9 Coat rack
3.10 Wire guides
4. Signage
4.1 Organization signs
4.2 Workstation name signs

8. MANUFACTURER'S SUMMARY LIST

Provide a summary of all the manufactures' used in the CID package.
Manufactures name, address, phone, fax and Point of Contact is to be included.

9. FURNISHINGS LOCATION CODE

This CODE is assigned by the interior designer to each conventional furnishing item indicated in the CID. Use of this code is important for quick reference between Order Forms, Furniture Illustrations, and Placement Plans.
The first letter of the code is a GENERAL CATEGORY

EXAMPLE:
A - Accessories
B - Book storage
C – Chairs

The second number of the code is a SPECIFIC CATEGORY

1 - Plant (7' height in brass container)
2 - Clocks, Peter Pepper, #0000 Color Blue
3 - Wastebaskets, FSS, Color Black
4 - Chalkboard: Egan Visual, Oak

OVERALL EXAMPLE: C1, C2 and C3

C - CHAIRS
1 - Guest chair, Knoll, #1234, Color: #12 Red
2 - Ergo Chair, Knoll Bulldog, 1233, Color: #34- Blue
3 - Stacking Chair, Fixtures, Bola, 1234, Color #12 Multi

10. FURNITURE ILLUSTRATION SHEET

A Furniture Illustration Sheet is a pictorial example with finish samples of a single product specified for the CID. Only one product is illustrated per page.

The Furniture Illustration Sheet shall have the following information:

1. A Picture or line drawings of the product specified.

2. A Location Code to Key the specified product to the Footprint

3. A Sample of the product's finishes.

4. Recap quantity of illustrated item listed by room number (e.g. 4 ea. Room 104 Commander
3 ea. Room 103 Receptionist)

5. Job name, Job Location, Date.

11. FURNITURE PLACEMENT PLAN

A Furniture Placement Plan consist of one room broken out from the Composite Furniture Plan which identifies each furniture component shall be illustrated in the Furniture Placement Plan section. The Furniture Placement Plans shall be drawn at a 1/4" scale. Large rooms/areas shall be drawn at 1/8" scale.

Each Furniture Placement Plan shall contain the following:

1. 1/4" Scale-Drawing showing room and furniture.
2. Location Code and quantity of each item specified per room.
3. Name and Number of Room
4. Job Name, Job Location, Date.

The Composite Furniture Plan shall be a full size contract drawing with location codes. Half sizes will not be acceptable for review.

12. ARTWORK ILLUSTRATIONS SHEETS AND PLANS

The Artwork Illustrations Sheets shall have a pictorial example of the artwork with mat colors. Color photos copies are accepted.

Full size drawings of the Artwork Plan are to show plan placement of artwork and an elevation for all the artwork showing placement height and installation instructions.

Each Artwork sheet shall have the following:

1. A Picture of the proposed artwork.
2. Location Code
4. Room Name and Number that artwork will be displayed in.
5. Job name, Job Number, Date.
6. Mounting height and installation instructions.

13. ITEMIZED FURNITURE COST ESTIMATE

The itemized furniture cost estimate sheets list all furnishings; indicate quantities, unit costs and grand totals. The Cost Estimate is organized according to UNICOR and GSA Source/Schedules. The Cost estimate will also include a general 10% contingency and 7% installation. Because some items will include freight in the price. Note that freight charges are not included.

14. FURNITURE ORDER FORM

The Furniture Order Forms indicate all information necessary to order products specified in the CID. Only one product shall be listed per page.

Organize and separate the Order Forms according to the Sources and GSA Schedules to coordinate with the Itemized Furniture Cost Estimate. Do not organize forms according to the locations codes.

15. LETTER FOR WAIVER/JUSTIFICATION

FOR CID ITEMS THAT REQUIRE A JUSTIFICATION, SUCH AS OPEN MARKET ITEMS FOLLOW THE FORMAT EXAMPLE AND ATTACH IT TO THE APPROPRIATE ORDER FORM. See Appendix "C" for UNICOR Waiver information.

JUSTIFICATION FOR ACOUSTICAL PANELS
December 15, 1994

1. REQUESTING ACTIVITY: U.S. Army Corps of Engineers
EN-DA/Peggy Roberson
100 W. Oglethorpe Avenue
Savannah, GA 31402-0889

2. POINT OF CONTACT: Peggy Roberson (912) 652-5144

3. REQUIREMENTS: To provide acoustical and visual control through a cost effective and timely means. The panels will separate and define workstations for 7 individuals representing 5 engineering disciplines. These individuals are located in 1,470 sq. ft. of open area.

4. PROPOSED SOLUTION: To purchase portable, acoustical panels 62 inches high and various widths from XYZ manufacture. This manufacturer delivers and installs within 30 days from the date they received the order. See the attached order form for stock number, dimensions, colors and manufacturers.

5. UNICOR WAIVER: All furniture/furnishings shall be selected under the guidance of the National Defense Authorization Act – FY 2002, S1438, Title VIII, Subtitle B, Sec 811, Para 2410 which states UNICOR is no longer a mandatory source for furniture and a waiver is not required from UNICOR on items before selecting from the GSA Schedules. However, UNICOR shall be considered as a vendor to determine if UNICOR offers the "best value" product in terms of quality, price, and timeless. If an UNICOR product is not the "best value", then GSA Schedules shall be used for selection of furnitures/furnishings. Three GSA vendors shall be considered but only one selected for the prepared illustration Order Form. A Best Value Determination Guideline Sheet shall be filled out for each vendor whose furniture has been specified and the sheet provided in the FF&E binder. (This is in addition to the requirement under 15.10.1.4 Format and Content) All furniture/furnishings shall be selected from GSA web site is: WWW.gsa.gov The UNICOR web site is: www.unicor.gov

6. TRIANGLE/INTANGIBLE BENEFITS: The tangible benefits to be gained from this purchase will be an enhancement of employee morale and productivity due to the reduction of sound and visual disturbances currently found in this open space.

7. IMPACT IS REQUEST IS NOT APPROVED: Employee morale will drop, which could impact performance.

8. ESTIMATED DATE ITEMS ARE REQUIRED: ASAP but no later than 30 days.

16. HEALTH AND SAFETY CRITERIA

16.1 PROVIDE PROTECTION AGAINST PERSONAL INJURY AND DEATH FROM:

16.1.1 FALLS - * ASTM D-2047-Test for Slip Resistance of Hard Surfaces

16.1.2 CHEMICAL EMISSIONS
16.1.3 ELECTRONIC EMISSIONS
16.1.4 MICROBIAL CONDITIONS

NOTE: 16.1.2, 16.1.3, and 16.1.4 are not defined by code at the present. OSHA has a proposed regulation in relation to indoor air quality standards. It is currently in the review phase. It is not in

16.1.5 FIRE (Interior Finishes and Furnishings)
* ASTM-E-84-Steiner Tunnel Test.

* NFAP-701-Standard method of Fire Test for Flame Resistant Textiles and Films.

* NFPA-705-Field flame Test for Textiles and Films

* FF 1-70-Standard for the Surface Flammability of Carpet and Rugs (Methenamine Pill Test)

* NFPA 80-Fire Test of Door and Windows\

* NFPA 253-Flooring Radiant Panel Test

* NFPA 258-Research Test method for Determining Smoke Generation of Solid Materials.

*NFPA 259-Potential Heat of Building Materials

*NFPA 260 Methods of Tests and Classification System for Cigarette Ignition Resistance of Components

* NFPA 261- Method of Test for Determining Resistance of Mock-up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes.

* NFPA 264- A Standard Test Method of Test for Heat Release Rates for Upholstered Furniture Components or Composites and Mattresses Using an Oxygen Consumption Calometer.

* NFPA 267- Standard on Mattress, subjected to Open Flame Ignition, Using a Large-Scale Oxygen Consumption Calorimeter.

* UL-1056- Fire Test of Upholstered Furniture

* TB 133- Flammability Test Procedure For Seating Furniture for Use in Public Occupancies. State of California Bureau Home Furnishings.

* TB 117- (Section A though E) Test Procedures for Testing the Flame Retardance of Resilient Filling Materials used in Upholstered Furniture.

16.2 PROVIDE FURNISHINGS AND EQUIPMENT WITH ANTHROPOMORPHIC FIT AND STABILITY
* ANSI/BIFMA X5.6-86 Standard for office Furnishings.

16.3 PROVIDE GLARE-FREE ILLUMINATION OF WORK SURFACES
* ANSI E-97

16.4 PROVIDE ACCEPTABLE REFLECTANCE LEVELS
* ASTM E-97-IES

16.5 PROVIDE FOR USE AND MAKE ACCESSIBLE TO PHYSICALLY DISABLED
* American Disabilities Act: ASTM 117.1
* Uniform Federal Accessibility Standards

16.6 PROVIDE SAFE AND SWIFT EGRESS FROM INTERIOR SPACES
* International Building Code, BOCA

* NFPA 101 Fire Safety Code-94
* National Building Code, BOCA
* Standard Building Code
* Uniform Building Code, ICBO

16.7 PROVIDE ACOUSTIC CONTROL
* Airborne sound: ASTM C 423, PBS C.I
* Speech Privacy: SPP, Speech Privacy Potential
* Impact sound transmission: ASTM C 423-66, PBS C-2

17 CHECKLIST FOR SID REVIEWS

17.1 GENERAL
The Checklists are used to ensure that SID/CID binders and all contact drawings and specifications are complete and will meet customer approval.

17.2 CHECKLISTS FOR SID BINDERS

The correct organization of the SID Binder is important to ensure a rapid and accurate evaluation of the submittal and to ensure all the information provided in the binders appears in the contract documents The SID binder shall include the information in the order indicated in
Paragraphs 4 and paragraph 5 Submittal Matrix Summary 1-17.

17.2.1 CHECKLIST FOR SID NARRATIVE

Review the statement of DESIGN OBJECTIVES. Design Objectives are to indicate the proposed building materials, color scheme and the philosophy for the selection each. When applicable the design narrative shall discuss Energy Efficiency, Safety, Maintenance, Durability, Image and Occupant Morale.

17.2 CHECKLIST FOR EXTERIOR COLOR LEGEND AND COLOR BOARDS
Exterior Colors are often dictated by the Installation's Design Guidance. In these instances, the Federal Standard 59533 paint colors may be referenced for factory-finished items. See examples below.

Metal Roof Federal Standard 595b 0000

17.2.2 REVIEW QUESTIONS

1. Are all exterior materials labeled and properly identified?

2. Do all exterior materials and finishes meet standard Installation Design Guidance requirements?

3. Are there any miscellaneous exterior materials and finishes that need to be listed and sampled in the SID Binder OR indicated in Guide Specifications or and indicated on Finish Schedule? Contract drawings?

4. Are all the exterior materials sampled in SID Binder?

5. Are all exterior materials indicated on Finish Schedule sampled in SID Binder?

17.3 CHECKLIST FOR SID INTERIOR COLOR SCHEME AND COLOR BOARDS:
Review the architectural finish samples for an orderly arrangement on 8 1/2" x 11" color boards according to like rooms/areas receiving like finishes.

Each color board will be noted as a COLOR SCHEME. Each Color Board shall consist of a material sample board and a material legend board.

17.3.1 Each Color Scheme shall be properly identified:
[The following information should be on the lower portion of each sheet]

a. Project title
b. Location
c. Date

d. A/E Firm

17.3.2 Each material legend shall have written identification of materials in the order as follows:

1. Alpha Code
2. Material
3. Manufacturer
4. Color name
5. Color Number

The material legend identification shall be consistent with the material legend found in the Exterior and Interior Finish Guide Specification or in the contract drawings. Without exception all rooms and areas shall be identified and their finishes shown.

* The general contractor will not be receiving the SID binders therefore all finishes and their placement must be on the contract drawings or in the Guide Specifications.

17.4 CHECKLIST FOR INTERIOR COLOR SCHEME

17.4.1 SID REVIEW QUESTIONS

COLOR SCHEME

1. What basic color scheme is used?
    a. Monochromatic
    b. Analogous plus complement accent
    c. Complementary
    d. Split Complementary
    e. Triadic

2. Is there a basic neutral color for all walls?

3. Does the color scheme create a sense of order?

4. Are accent colors appropriate in hue value and intensity to create interest? Do they overpower the space?

5. Are Accent Colors clearly indicated on the contract drawings?

6. Are the colors placed to create a "visual balance" throughout the building?

7. Do the Accent colors assist with "pathway finding"?

GENERAL FINISHES

1. Do finishes offer variety in appearance? (soft, hard, smooth, rough, dull, gloss, matte)

2. Do selected finishes enhance the architectural lines of the rough, dull, gloss, matte) building?

3. Are materials, finishes, and colors appropriate for the surfaces they will be covering?

4. Are walls painted [Gloss] [Semi-Gloss] [eggshell]?
(Flat Latex wall paint is not durable for interior walls.)

5. Do the interior finishes reflect and reinforce the appropriate image for the facility?

6. Is the flooring selected for all areas appropriate in color pattern, texture and scale?

7. Does color and pattern in Carpet/Carpet Tile relate to scale and size of room?

8. Will Carpet/ Carpet Tile color and pattern hide soil and wear path?

9. Are window treatments compatible with architectural detailing?

10. Will window treatment and its installation cause unnecessary wear or abrasion?

11. Are finishes selected creative in use and placement?

12 Will there be acoustical problems because of the materials selected? (A balance of Reflective and Absorptive surfaces is necessary)

13. Will all colors, materials, and finishes retain their appearance long-term?

14. Are all interior finishes labeled and properly identified?

15. Do all interior finishes meet standard codes requirements?

16. Are there any miscellaneous interior finishes and materials that need to be listed, sampled and specified?

17. Are all interior materials sampled in SID Binder listed on the Finish Schedule?

18. Are all materials listed on the Finish Schedule sampled in the SID Binder?

19. Are there any treatments such as bordered carpets, or multi-color ceramic tile borders that need to be illustrated in plans but are not?

20. Are all SID finishes specified according to the quality to ensure quality and performance?

PREWIRED WORKSTATIONS

1. Do the prewired workstations and specifications coordinate to fully cover all the information required for bidding, and installation of the product?

2. Have all the required contract drawings as indicated in paragraph of the Submittal Summary Matrix been provided?

17.4.2 CHECKLIST FOR SAFETY:

Do all finishes selected shall meet code requirements and are appropriate in color, texture, and pattern to insure the well being of the inhabitants?

17.4.3 FACILITY SIGNAGE REVIEW QUESTIONS

1. Is the signage listed on a separate plan and indicated correctly in the specifications?

2. What typeface is specified? Does it meet approved standards?

3. Is Symbol Signage used in lieu of Printed identification for restrooms?

4. Are Signs flexible so that names and rooms can be changed easily?

5. Are Signage colors and samples in the SID?

For additional reference on signage refer to Sign Standards relative to the Department of Defense.

18.5 CHECKLIST FOR CID BINDER LAYOUT

The CID Binder is the most detailed of all binders submitted because of the numerous components specified, priced, and illustrated. The correct organization of

the CID Binder is important to insure a rapid and accurate review of the building's furniture components and their relationship to the architecture and its finishes. The CID Binder shall include the information in the order indicated in paragraph 5 Submittal Matrix Summary items 18-31.

18.5.1 CHECKLIST FOR CID NARRATIVE: Review the statement of DESIGN OBJECTIVES explaining the CID interior design philosophy of the facility. Design Objectives and the proposed method of accomplishing the objectives shall cover, when applicable, the furnishings and their relationship to the building and it's inhabitants, energy, efficiency, safety, health, maintenance, image, personal performance of occupants and functional flexibility.

18.5.2 CID REVIEW QUESTIONS

1. Does the layout of the CID Binder follow the TABLE OF CONTENTS format indicated in paragraph 4.7 and 5?

2. Are all pages properly identified?

3. Are all samples labeled and identified?

4. Are there any miscellaneous components shown on the Footprint Plan that are not shown in the CID Binder?

5. Are there any miscellaneous components shown in the CID Binder that are not reflected on the FURNITURE PLACEMENT PLANS?

CHAIRS

1. Is the chair appropriate for the task?

2. Is the style of the chair in keeping with the overall theme of the building and other components selected?

3. Is the chair scaled correctly for the space it occupies?

4. Are chair costs appropriate for the project?(ERGO $300-350)

5. Is the finish of the chair interesting and in harmony with the elements surrounding it?

6. Are all chairs listed on the composite Footprint Plan, Furniture Placement Plans, Illustration Sheets, Location Code and Order Forms?

DESK

1. Is the desk appropriate for the task?

2. Is the style of the desk in keeping with the overall theme of the building and other components selected?

3. Is the desk too large for the space it occupies?

4. Are the desk costs appropriate for the project?

5. Is the finish of the desk interesting and in harmony with the elements surrounding it?

6. Are all desks listed on the composite Footprint Plan, Furniture Placement Plan, Location Code and Cost Estimate, Furniture Illustration Sheet, and Order Form?

COST ESTIMATES and ORDER FORMS

1. Are cost estimates correct?

2. Are Order Forms completed and accurate?

18.5.3 CHECKLIST FOR SAFETY

1. In the placement of furniture, is emergency egress considered?

2. In the placement of furniture, is consideration given to the requirements for the handicapped. (Reference: Uniform Federal Accessibility Standards and ADA).

19. LESSONS LEARNED

Lessons Learned are for information only and to eliminate lost effort in the development of SID/CID submittals. Lessons learned are from both Air Force and Army projects.

Experience has taught that generally neutral interior environments with color accents used appropriately in SID finishes and all CID finishes provide the best

"look" for a government facility. The common sense approach to all projects is the most cost effective way to achieve customer satisfaction.

Interior Design Solutions are important to the treatment and housing of all personnel. If leaders expect excellence in people, the environment in which they are housed should not be created on a whim or by individuals not technically educated and experienced in creating such environments.

Although interior environments cannot motivate people to excel they can provide a background that creates a functional opportunity for them to excel.

The Savannah District considers a quality interior design environment to be one that meets the followings ten (10) objectives:

1. Complete Coordination between contract drawings and specifications. The lack thereof is a potential source of liability.

2. The use of durable, easily maintained finishes that support "good housekeeping".

3. Appropriate use of accents colors that are easy to "live with" and cost effectively removed when updating the "look".

4. Spaces that are planned to support life safety.

5. Spaces that meet the functional needs of the user. Maximize flexibility for future change in both SID and CID plans.

6. Furnishing selected that support personal performance and personal health.

7. Appropriate use of alll the design elements (Landscape, Architecture and Interior Design) to support "path-way finding" "up to" and within the facility.

8. Accurate documentation of all the contract documents (SID) and procurement documents (CID).

9. Finishes and furniture selected that meet government procurement regulations.

10. Customer satisfaction.

19.1 EXTERIOR FINISHES

1. Exterior SID: The Exterior building finish materials, colors and signage shall be in accordance with the Master Plan/Installation Design Guide of the installation on which the project is being constructed.

2. Verify with each installation what their current standard exterior finishes are.

3. Use the Federal Standard Number 595B to indicate the range of exterior finish colors.

19.2 INTERIOR DESIGN PHILOSOPHY

1. Interiors building finishes, furnishings and colors schemes are to be appropriate and support the function of the facility.

2. Interior design objectives are to create an environment that enhances public image, employee morale, provide building finishes that are durable, easy to clean, cost effective to maintain and support life safety.

3. Appropriate accent colors are easy to "live with" and can be easy and cost effectively removed when updating the "look" is the objective.

4. Accurate documentation of finishes and furnishings in both the SID and the CID.

5. Talk to the customer. Let them know what you are planning before you submit the color boards. Do more in-process design and review communication with the customer before formal submittals.

6. Generally the exterior color scheme should transition and continue into the interior color scheme.

19.3 INTERIOR FINISHES

1. Non-slip surfaces at entryway

2. Semi-gloss for trim only

3. Egg-shell finish for walls if possible.

19.4 INTERIOR COLORS

1. A neutral warm or cool color palette with accent colors used in furnishings has generally been the most successful for most interior projects.

2. Colors in a mid-tone range used for door trim and matching base is generally approved.

3. Light colored carpets shows soil easily and will be disapproved.

3. Painted doors, trim and walls to blend (do not use extreme contrast colors for doors and walls).

5. Because the general contractor can substitute colors, textures and patterns during the construction process "permanent interior building finishes" are most successful if they are neutral colors.

The most typical finishes substituted during construction are: Plastic laminates, vinyl wall coverings, ceramic tile, toilet partitions, wood stains.

19.5 ACCENT COLORS

1. Ceramic tile accent borders on floors and walls in restrooms (one or two colors on a neutral field.)

2. Multi-colored graphic pattern carpet with solid or fleck colors used as accent borders.

3. Accent vinyl wall covering colors used a visual "pathway finding" guide through a facility.

4. Colorful fabrics with small pattern designs used on guest chairs.

19.6 WALL COVERING

1. Use Type II for all areas. Type III only in heavy use corridors. The additional satin resistant coatings used for health care environments.

2. The architect is to design walls with a correct vapor barrier. Wall covering can be used on both exterior and interior perimeter walls.

3. Must meet NFPA Class A Flame Spread rating.

4. Use chair rail when walls are subject to frequent furniture movement and scarring. ig. Conference rooms and waiting areas.

5. Fabric wall covering can only be used in a sprinkled building according to NFPA.

19.7 CARPET

1. Primary interior finish and should be the bases for the overall color scheme.

2. Graphic Patterns with random pattern is the best. Avoid large geometric or rigid patterns. They look askew if adjacent to a wall that is not plumb,

3. Avoid bright or light colors which soil easily.

4. Carpet tile is recommended when power and communications are installed in floor raceways.

5. Carpet tile is best for corridors: use patterned fields and solid-colored borders for "pathway finding".

19.8 SIGNAGE

1. Use the Installations' Design Guidance or the appropriate design guide for the Department of Defense agency.

2. Coordinate the signage color with the interiors color scheme.

3. Specify a flexible sign that allows for easy personnel name change or room name change.

4. Signage changes. It is helpful when ordering additional signage that signage specified be on a GSA schedule.

5. Bulletin Boards and fire exit plans are to be included in facility signage package.

19.9 UPHOLSTERY

1. Tweeds and small-scaled patterns retain their appearance longer.

2. Avoid solid colors because they show dirt, lint and fade faster that patterns and tweeds.

3. Vinyl's are used for wet areas such as labs.

4. Avoid vinyl fabrics in administrative areas or for general use seating.

5. Leather seating is used for only high-ranking officers and directors.

6. Use Nylon and Nylon blends seating fabrics that are easy to maintain.

19.10 FURNITURE

1. Black and wood veneer horizontal surfaces are discouraged in general public use areas. A plastic laminate table surface in public areas retains its appearance longer.

2. Mid-tone range colors for work surfaces are recommended because it will not add to eye fatigue. Light oaks, beige, and grays work best.

3. Black finishes are discouraged for case goods because it is a housekeeping problem.

4. Oak is an acceptable color range for woods and laminated wood surfaces and frames. Darker woods are traditionally accepted for those of higher rank.

5. Use commercial grade, performance tested GSA contracts.

6. Laminate tops are recommended for all work surfaces other that executive suite areas (wood veneer may be used).

7. Systems furniture plans require Air Force HQ Interior Design Review and approval.

8. Acoustical panels over 65" in height may restrict light and air distribution. 62-64" high panels are generally the best.

9. Fabric finishes on flipper doors will not be approved.

19.11 ARTWORK

1. Only use in public areas; not in private personnel offices.

2. Use to assist occupants in "pathway finding"

3. Hang artwork at 5'-6" with security type devices.

4. Choose mats and frames, which complement other accessories and interior color scheme.

5 . Art should be large enough to fill the space.

19.12 PLANTS AND ACCESSORIES

1. Plants help soften the space.

2. Do not specify live plants. This type of specification requires a maintenance contract.

3. Use quality artificial plants such as with real trucks, bark etc.

4. Specify sturdy containers. Limit the use of wicker baskets.

19.13 Window Treatments

1. Use doubled return hems and doubled bottom hems.

2. Draperies are not encouraged in areas other that executive suites and living areas.

3. Mini blinds that match the window frame are recommended for admin space.

4. Vertical blinds are accepted and can have a fabric inserts. Do not specify any fabric vertical blinds without using a PVC insert vain.

5. Specify blackout lining in sleeping areas

6. Fabric valances may be used over mini blinds

7. Use decorative rods or top treatments to give draperies a finished appearance.

8. Draperies are to be 2.5 fullness.

9. Ripple fold over pinched pleats recommended.

10. Draperies are to have minimum 4-inch returns and 2 inch overlaps with a 4-inch heading. Weighted at the corners and all seams.

19.14 BEDSPREADS

1. Use a fitted style bedspread.

2. Pattern is recommended.

3. Minimum 5 oz 100% polyester fill

4. Fabric must have dimensional stability with less than 2% shrinkage after washing at 160 F degrees.

19.15 THE DISTINGUISHING CHARACTERISTICS OF SUCCESSFUL INTERIORS

The Savannah District holds firmly to the position that a successful interior design solution consistently incorporates typical finishes, colors and features to obtain quality interior design solutions. The following guidelines shall be the basis from which all projects will be reviewed and judged for their success.

When planning for the interior environment emphases of one from each of the following groups will hopefully achieve good design:

1. Architectural Emphasis or Component Emphasis

2. Color System in Contrast or Color System in Continuity

3. Directional Reinforcement OF Directional Change

4. Value Contrast or Value similarity

5. Surface/Texture Emphases or Surface Pattern Emphasis

6. Contemporary/Traditional Emphases or Eclectic Emphasis

Interior SID: Permanent interior building finishes are to be neutral in color. "Permanent finishes" are considered:

1. Plastic Laminates

2. Vinyl Composition Tile

3. Ceramic Tile or other hard tiles

4. Wood doors (stained wood finish)

5. Metal Doors and Metal Trim

6. Toilet Partitions

7. The majority of walls and ceilings.

The appropriate placement of accent hues and patterns for a Government project are considered to be:

1. Accent borders on floors and walls in restrooms.

2. Multi-colored graphic patterned carpet used throughout the facility.

3. Accent colors on vertical surfaces used as visual assistant in “path wayfinding”

4. Artwork

5. Upholstery fabric

Although cost constraints can limit complex design details throughout the facility, there are areas where cost effective use of accents hues and identifying architectural features should be considered and used to create an image. The following areas are ranked according to importance:

1. Lobby Areas
2. Main Conference rooms
3. Command Areas
4. Employee Break rooms and Toilet Rooms
5. General Office Areas

Successful "Path wayfinding" is achieved when users and visitors easily find their way “up to" a building and throughout its interiors. The District's position is that "path wayfinding" can successfully be obtained by incorporating reason and experience offered by a multi-disciplined team of the Landscape Architect, the Architect and the Interior Designer.

20. SID/CID ILLUSTRATIONS

30% STRUCTURAL INTERIOR DESIGN

FY – 2003
UEPH DORMS

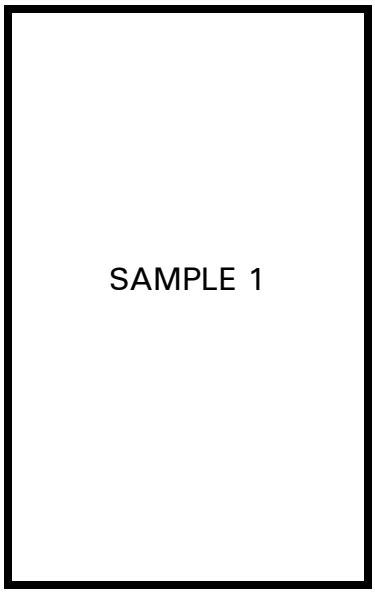
ENGLIN AIR FORCE BASE
FLORIDA

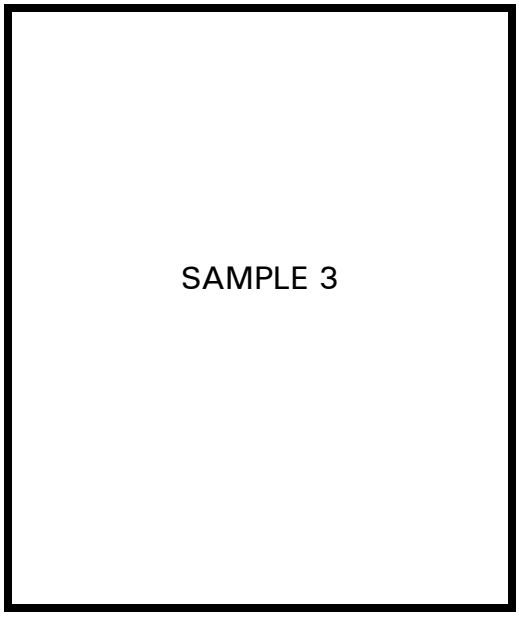
U.S. ARMY CORP OF ENGINEERS
MOBILE DISTRICT
MOBILE, ALABAMA
APRIL 1994

Building Exterior Elevation

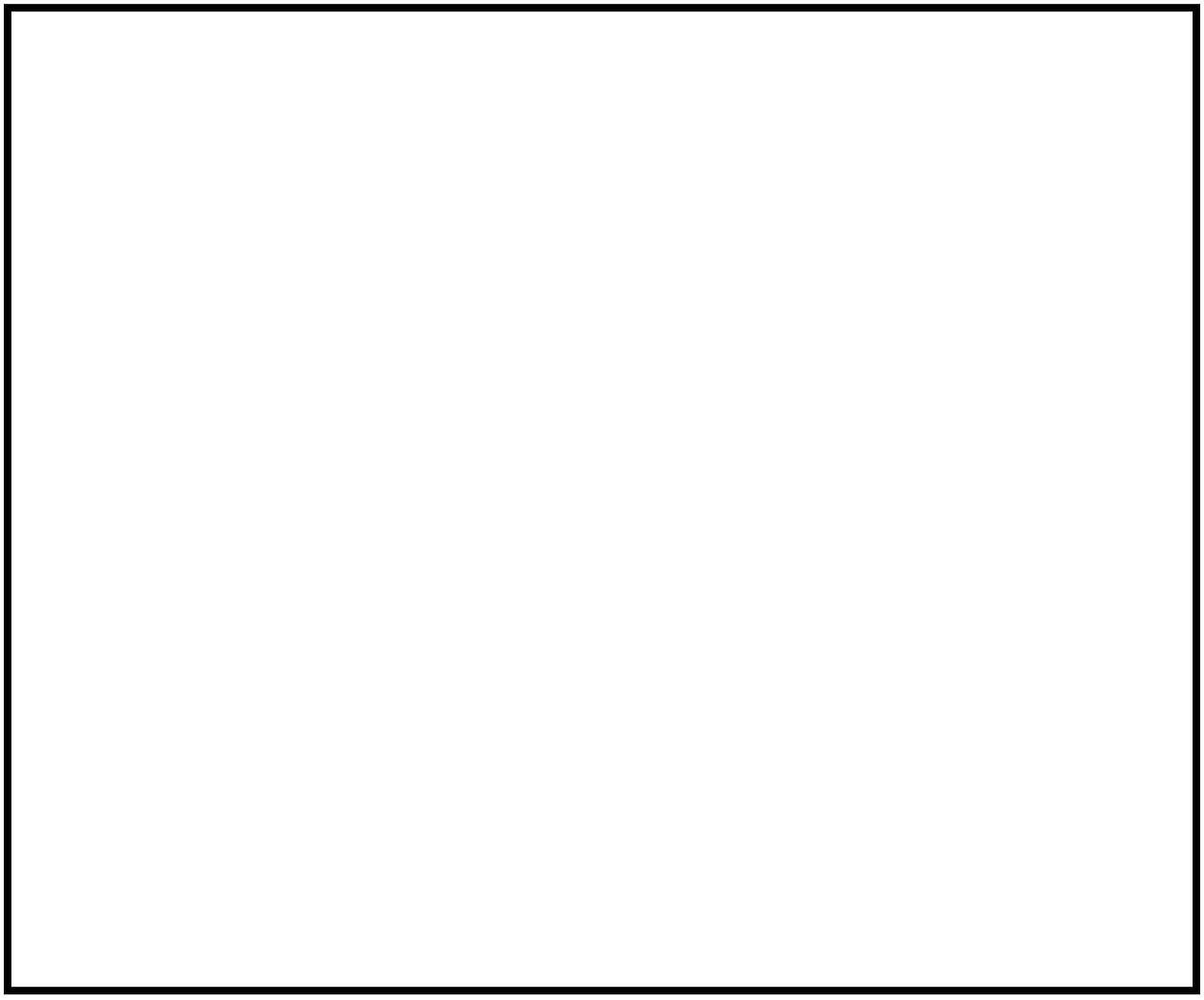
1. SMOOTH FACE BLOCK LIGHT TAN
2. GLACING, PPG, SOLARBRONZE TINT
3. META, RCSF, FEDERAL STANDARD 595B 000000
4. METAL GURRER, FEDERAL STANDARD 595B 000000

EXTERIOR MATERIAL SAMPLES





FLOOR PLAN OF BUILDING



COLOR SCHEME "**A**"- GENERAL OFFICE AREAS
COLOR SCHEME "B" TOILET ROOMS
COLOR SCHEME "C" MISCELLANEOUS AREAS

FIRM PROJECT NAME

INTERIOR COLOR PLACEMENT

DATE LOCATION

INTERIOR
COLOR BOARDS

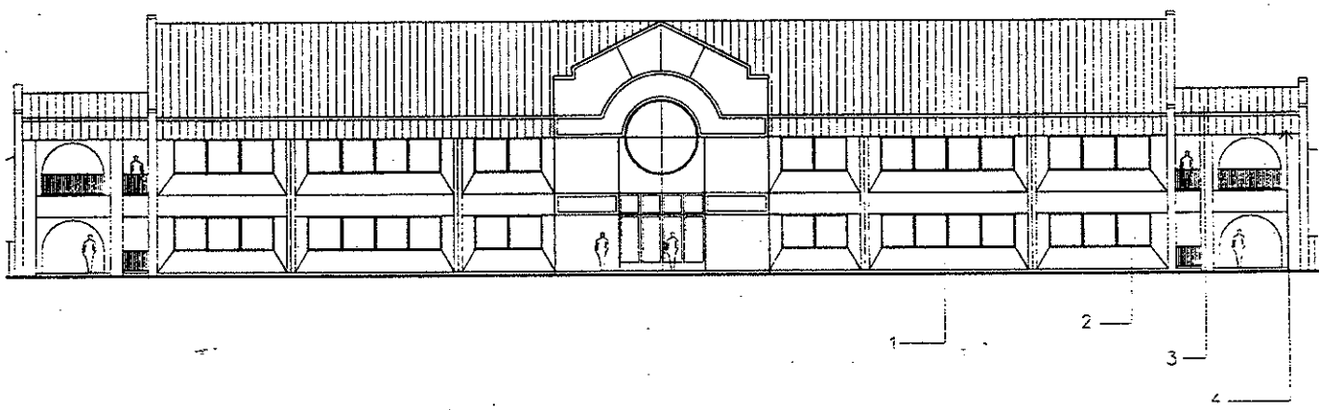
FIRM

PROJECT NAME

INTERIOR COLOR BOARD

DATE

LOCATION

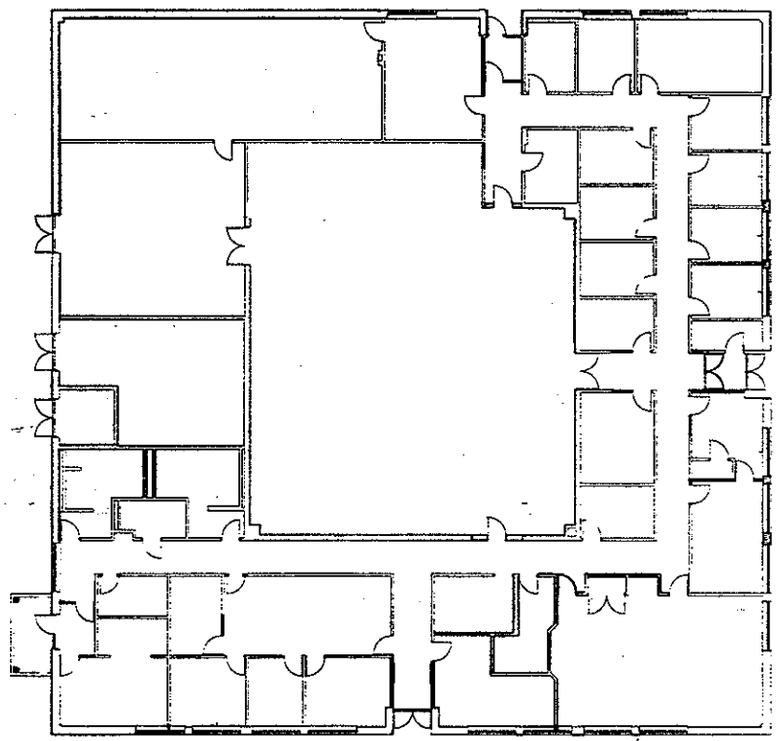


1. SMOOTH FACE BLOCK, LT. TAN
2. GLAZING, PPG, SOLARBRONZE TINT
3. METAL ROOF, FEDERAL STANDARD 595B 00000
4. METAL GUTTER, FEDERAL STANDARD 595B 00000

FRM
DATE

EXTERIOR ELEVATIONS

PROJECT NAME
LOCATION



COLOR SCHEME "A"- GENERAL OFFICE AREAS

COLOR SCHEME "B" TOILET ROOMS

COLOR SCHEME "C" MISCELLANEOUS AREAS

FIRM

DATE

INTERIOR COLOR PLACEMENT

PROJECT NAME

LOCATION

INTERIOR
COLOR BOARDS

FRM

DATE

PROJECT NAME

LOCATION

SAMPLE

FIELD

CT-1

ACCENT

CT-2

SAMPLE

GROUT-1

SAMPLE

CT-3

FLOOR TILE

SAMPLE

P-2

CEILING

SAMPLE

TP-1

PL-1

FIRM

DATE

COLOR SCHEME "C"

PROJECT NAME

LOCATION

CT-1: CERAMIC TILE, AMERICAN OLEAN, 153 ALMOND. 4" X 4"

CT-2: CERAMIC TILE, AMERICAN OLEN, 2" X 2" TEAL

CT-3: CERAMIC TILE, AMERICAN OLEN, 2" X 2" A 20 BEACH TAN

GROUT-1: AMERICAN OLEAN, BROWN

P-2: EPOXY PAINT, WHITE (FOR CEILINGS)

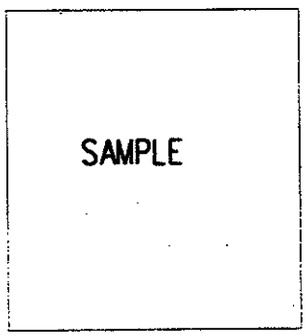
PL-1: PLASTIC LAMINATE, WILSONART, ALMOND, 513 COUNTER TOPS

TP-1: PLASTIC LAMINATE, WILSONART, ALMOND 513 TOILET PARTITIONS

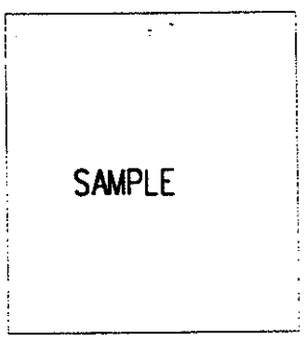
FIRM
DATE

COLOR SCHEME "C"

PROJECT NAME
LOCATION

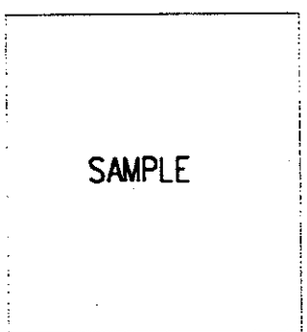


APCO WHITE (PLAQUE HOLDER)



LETTERING

APCO BLACK



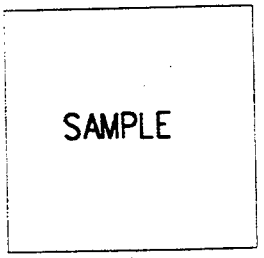
APCO CLEAR (INSERT)

FIRM
DATE

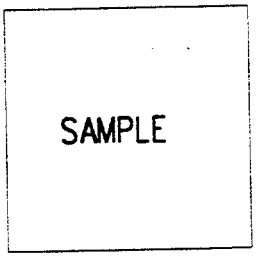
SIGNAGE

PROJECT NAME
LOCATION

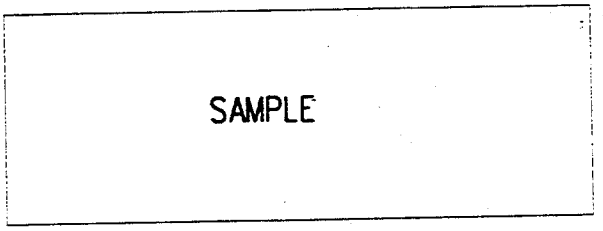
XYZ SYSTEMS MFG.



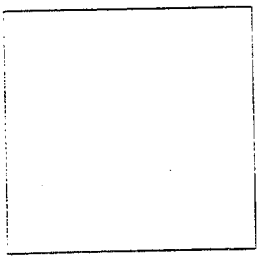
PANELS FABRIC
466 TAN



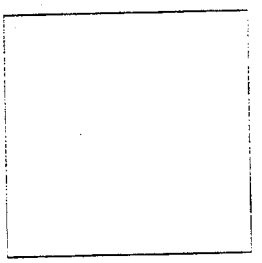
TACKBOARD
033 TEAL



FLIPPER DOOR AND TRIM
PUTTY



COMPONENTS

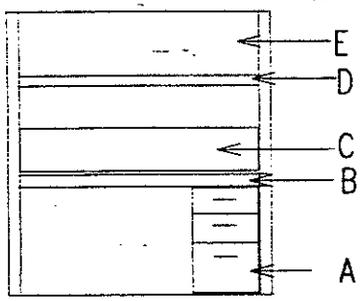


WORKSURFACES

FIRM
DATE

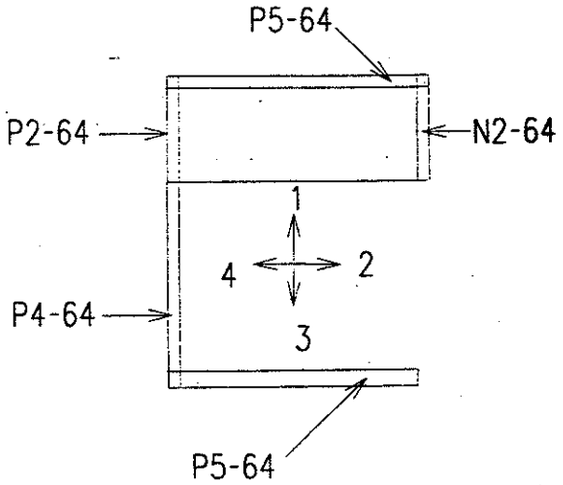
PREWIRED WORKSTATION COLOR BOARD

PROJECT NAME
LOCATION

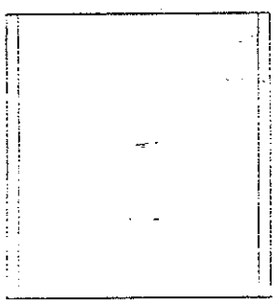


ELEV 1

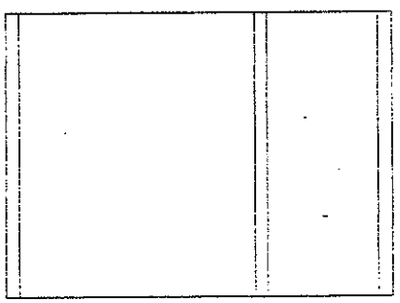
ELEV 2



PLAN VIEW
6'-0" X 5'-0"



ELEV. 3



ELEV 4

QTY.	CODE	DESCRIPTION
2	P5-64	2' W X 64"H POWERED ACOUSTICAL PANEL
1	N2-64	2'W X 64"H NON-POWERED ACOUSTICAL PANEL
1	A	3", 3", 12" DRAWER PEDESTAL
1	B	23"D X 60" W HANGING WORK SURFACE

10 EACH TYPICAL" A"

FIRM
DATE

PREWIRED WORKSTATION
TYPICAL "A"

LOCATION

INSERT CONTRACT DRAWINGS OF:

FLOOR PLANS

FINISH SCHEDULE

SIGNAGE PLAN

PREWIRED WORKSTATIONS DRAWINGS

FIRM

DATE

PROJECT NAME

LOCATION

100%
COMPREHENSIVE
INTERIOR DESIGN

FY-95
UEPH DORMS

EGLIN AIR FORCE BASE
FLORIDA

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
MOBILE, ALABAMA
APRIL 1994

MANUFACTURER ABC
109 MAIN STREET
ANYWHERE, USA 00000
POINT OF CONTACT:
1-800-000-0000

MANUFACTURER XYZ
109 MAIN STREET
ANYWHERE, USA 00000
POINT OF CONTACT:
1-800-000-0000

MANUFACTURER XXX
109 MAIN STREET
ANYWHERE, USA 00000
POINT OF CONTACT:
1-800-000-0000

INSERT COMPOSITE FURNITURE PLANS

FIRM

DATE

PROJECT NAME

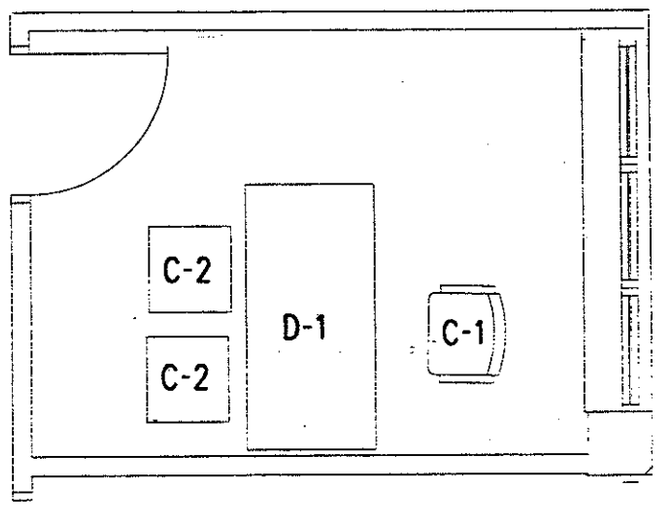
LOCATION

A- ACCESSORIES

B- BOOKCASES

C- CHAIRS

D- DESKS



ROOM:123

QTY.	LOCATION CODE	DESCRIPTION
1 EA.	C-1	KNOLL BULL DOG , BLACK FRAME, COLOR: TEAL
2 EA.	C-2	KRUGER, "VERSA" BLACK FRAME, TEAL
1 EA.	D-1:	XYZ , WOOD: WALNUT

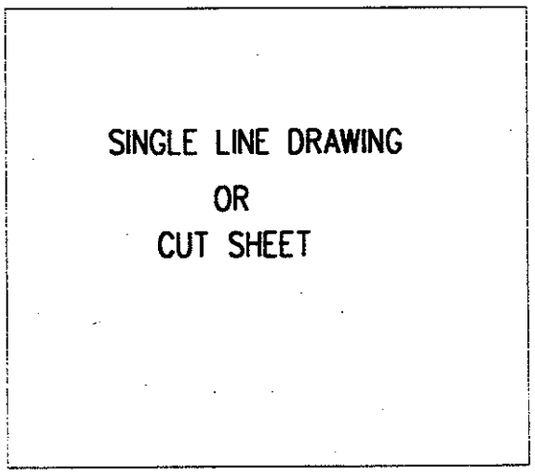
FIRM
DATE

FURNITURE PLACEMENT PLAN

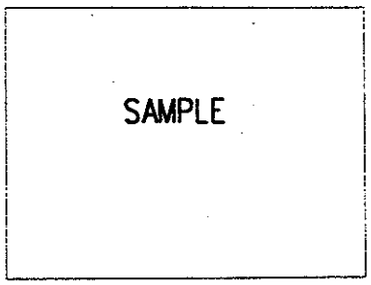
PROJECT NAME
LOCATION

FURNITURE ILLUSTRATION

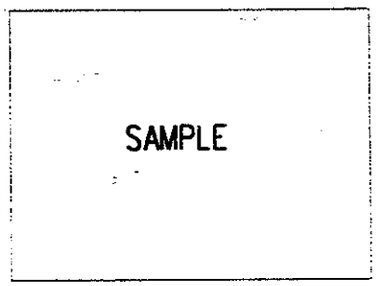
C-2



FABRIC:
002 BLUE



FRAME
BLACK



ROOM	QTY	TOTALS
123	2	8
124	2	
125	2	
126	2	

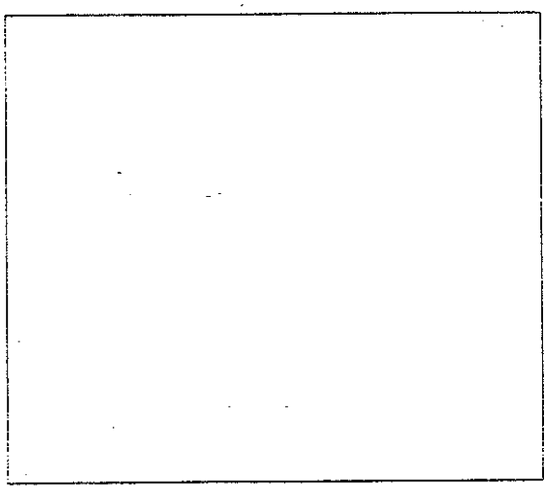
FIRM
DATE

FURNITURE ILLUSTRATION SHEET

PROJECT NAME
LOCATION

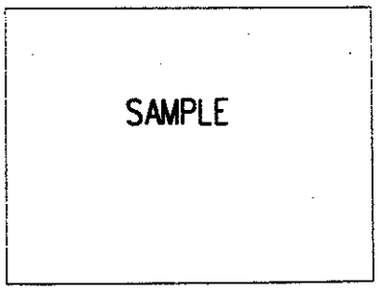
ARTWORK ILLUSTRATION

A-1



A-1

MAT
002 BLUE



FRAME
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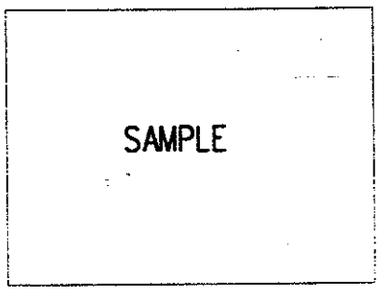

MOUNTING INSTRUCTIONS:

PLACE CENTER OF WALL WITH TOP OF FRAME 64"
ABOVE THE FINISHED FLOOR

ROOM	QTY	TOTALS
123	1	1

FIRM
DATE

ART ILLUSTRATION SHEET

PROJECT NAME
LOCATION

FIRM
DATE

COST ESTIMATE

PROJECT NAME
LOCATION

SOURCE: FSC GROUP 71, PART X CONFERENCE TABLES

CODE	MFG.	ITEM	QT.	UNIT PRICE	TOTAL
T-1	KRUGER	TABLE	04	$ 350.00	1,400.00
T-2	KRUGER	TABLE	01	$ 350.00	350.00
T-3	KRUGER	TABLE	04	$ 350.00	1,400.00
				TOTAL:	$5,4350.00
T-5	VECTA	TABLE	04	$1,000.00	$4,000.00
T-6	VECTA	TABLE	04	$1,000.00	$4,000.00
				TOTAL:	$8,000.00

TOTAL OF ALL CID SOURCES:
10% CONTINGENCY:
7% INSTALLATION:
MISCELLANEOUS FEES:

GRAND TOTAL:

FURNITURE ORDER FORM SAMPLE
PROJECT TITLE

1. LOCATION CODE:
2 DIRECTORATE:
4. DEPARTMENT
5. ACTIVITY:
6. FSC GROUP: 71 PART III SECTION: L CLASS 7110 SIN 499-1 CONTRACT EXPIRATION DATE: MOL:
7. SOURCE: Manufacturer's name etc....
8. PRODUCT NAME:
9. PRODUCT STOCK NUMBER:
10. PRODUCT FABRIC NAME AND COLOR NUMBER:
11. PRODUCT FINISH NAME AND COLOR NUMBER:
12. DIMENSIONS: WEIGHT:
13. DESCRIPTION: (Include construction information; fabric content, finish application)
14. JUSTIFICATION: These guest chairs are coordinated to match the tasks seating at each workstation. The size of the guest chair was critical because of the limited space where they were to be placed. If this company is not selected coordinate the newly proposed finishes with Location Codes: C3, C4 and C5.
15. ROOM LOCATION QUANTITY PER ROOM
16. TOTAL QUANTITY:
17. UNIT PRICE:
18. TOTAL PRICE:
19. FREIGHT CHARGES: FOB DESTINATION (Note if freight charges are included in the price of the CID item.)
20. Additional remarks or justification.

21. APPENDICES

A. ADA REQUIREMENTS

B. COMMANDER'S POLICY

C. UNICOR WAIVER

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO ATTENTION OF:
CEMP-EA/CECW-EP

25 JAN 1994

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Access for People with Disabilities

1. Reference Secretary of Defense memorandum dated 20 October 1993, subject as above (enclosure 1).

2. In accordance with the referenced memorandum, the Department of Defense (DoD) has implemented a new policy concerning accessibility standards. In the past, USACE was required to meet the requirements of the Uniform Federal Accessibility Standards (UFAS) and not the Americans with Disabilities Act Accessibility Guidelines (ADAAG). The new policy requires that, in addition to meeting UFAS requirements as required by 42 U.S.C. 4151-4157 and consistent with 29 U.S.C. 794, the requirements of the ADAAG that provide equal or greater accessibility then the requirements of the UFAS must also be met in those facilities subject to UFAS. The facilities excluded under UFAS (such as unaccompanied personnel housing) are still excluded under this new policy, even though the ADAAG has no such exclusions. The implementation of this new policy is considered to have *routine application* as defined by ER 1110-345-100.

3. Copies of UFAS and ADAAG criteria are available from the Architectural and Transportation Barriers Compliance Board, telephone (202) 272-5434. Copies of the Title II Technical Assistance Manual which explains differences between the two standards are available from the Department of Justice, (202) 514-0301.

4. The Directorate of Military Programs POC is Mr. D. S. Gim, CEMP-EA, (202) 272-0440, and the Directorate of Civil Works POC is Mr. Douglas J. Kamien, CECW-EP, (202) 272-8894.

FOR THE DIRECTORS OF MILITARY PROGRAMS AND CIVIL WORKS:

Encl

RICHARD C. ARMSTRONG, P.E.
Chief, Engineering Division
Directorate of Military Programs

PAUL D. BARBER, P.E.
Chief, Engineering Division
Directorate of Civil Works

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CEMP-EA

31 MAR 1993

COMMANDER'S POLICY MEMORANDUM #7

SUBJECT: Comprehensive Interior Designs

1. The Vice Chief of Staff, Army has placed priority on providing quality living conditions for our soldiers wherever stationed. While this initial thrust to improve the quality of interior environments is directed at barracks facilities, my overall concern is that we ensure quality interior living, working, and training conditions for all of our customers.

2. In order for the Army and our other customers to recruit and retain dedicated career professionals, excellent environments are needed to provide a high quality of life. Our customers and our own personnel spend a majority of their time in interior environments. Excellence in building interiors and furnishings is critical in meeting our customer's and our own functional and operations requirements. Excellent comprehensive interior design must be given high priority in the planning, programming, design, and implementation of our construction projects.

ARTHUR E. WILLIAMS
Lieutenant General, USA
Commanding

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
Washington, DC 20314-1000

ER 1110-345-122

CEMP-EA

Regulation
No. 1110-345-122

15 April 1994

Engineering and Design
INTERIOR DESIGN

1. Purpose. This regulation establishes policy, requirements, and responsibilities to be followed in the planning, design, approval, and procurement of interior designs for military construction projects and improvement programs.

2. Applicability. This regulation applies to HQUSACE/OCE elements, major subordinate commands (MSC), district commands and technical centers, laboratories, and field operating activities (FOA) having military construction (MILCON) responsibilities.

3. References. References and additional information resources are listed at Appendix A.

4. Projects Requiring Interior Design. Interior design is required on all new building construction and renovation projects regardless of funding source. Interior design guidance for most facility types is provided by Design Guide (DG) 1110-3-122. Interior design guidance for medical facilities is furnished by Architectural and Engineering Instructions, Medical Design Standards. Interior design for family housing will be in accordance with Architectural and Engineering Instructions, Army Family Housing.

5. Interior Design Services. Two types of interior design services are offered.

a. **Building-Related Interior Design.** Building-related interior design service will be provided for all facilities. This service requires the accommodation of needed furniture and equipment within the building, and the design or selection of items normally provided as part of the building construction project in accordance with AR 415-15. These services will be provided as an integral part of the project design and shall include:

(1) Basic space planning for anticipated furniture and equipment requirements in conjunction with the functional layout of the building design and such requirements as life safety, privacy, lighting, ventilation, and accessibility.

(2) Design, selection, and coordination of surface materials and colors that are applied to or compose walls, floors, ceilings, trims, doors, windows, window treatments, built-in furniture and installed building equipment, lighting, signage and other items which are permanently attached to, or are integral to the building. Appendix B further defines interior design elements that are building-related and furniture-related.

b. **Furniture-Related Interior Design.** Furniture-related interior design should be provided for all facilities where the arrangement of furniture and furnishings is important to building functionality. Furniture-related interior design services relate to the accommodation and selection of items that will be provided or procured by the Government. This service will be provided when requested by the using activity and will normally include:

(1) Selection, and color coordination of furniture and equipment drawn from existing inventory, procured from Government supply sources (see Appendix C), or procured by competitive bid. These items normally include such things as ergonomic chairs, freestanding and mobile furniture, draperies, lamps, rugs, plant materials, planters, and free standing or wall hung art.

(2) Detailed space design, placement planning, and procurement documentation for the selected furniture, furnishings, and equipment.

This regulation supersedes ER 1110-345-122, 31 October 1989.

(3) Coordination of furniture-related items with the building design.

6. General Requirements.

a. **Building-Related Interior Design.** General requirements for building-related interior design are as follows:

(1) Preparation of the basic space layout plans for furniture and equipment, in coordination with the functional layout of the building design.

(2) Specification of the material and color applications for interior component surfaces, and preparation of color and finish schedules.

(3) Design and specification of permanent features such as signage, graphics, casework, and built-in equipment; and the preparation of appropriate schedules.

(4) Coordination of finishes, interior components, lighting, acoustical treatment, electrical, information systems, and mechanical elements.

(5) Preparation of display books or boards showing layout diagrams, special details, and material and color samples, for the purpose of obtaining approval of the design scheme and for facilitating the execution of the design intent through the construction contract or other procurement.

(6) Description of interior design intentions for enhancement of energy efficiency, safety, health, functional flexibility, maintenance, increased personnel performance, and projecting the proper image.

b. **Furniture-Related Interior Design.** General requirements for furniture-related interior design are:

(1) Coordination with all the tasks identified in paragraph 6a above, so that the furniture-related and building-related design schemes reflect a single, coordinated design theme.

(2) Selection and description of furniture and equipment from available Government sources of supply (see Appendix C). Selection will be based on factors indicated in DG 1110-3-122. When Government source items do not meet requirements, purchase specifications to include materials testing and/or rating requirements to meet minimum Federal standards, and any other data necessary for procurement on the open market will be provided.

(3) Preparation of detailed furniture arrangement and placement plans, and coordination with electrical, information systems, and mechanical elements.

(4) Preparation of procurement documents with source data, item identification, color and finish schedules, and cost estimates. Documents will reflect current source data for procurement.

(5) Preparation of display books or boards showing layout diagrams, selected furniture and equipment, material and color samples. Perspectives or sketches may also be necessary to obtaining approval of the design scheme.

(6) Technical consultation during procurement, delivery, and placement, to assure receipt of specified and selected items, and completion and coordination of the overall design scheme.

7. Design Requirements. Preparation of project interior designs will coincide with the project design process described in AR 415-15. An interior design analysis will be prepared as part of the project design analysis required by ER 1110-345-700. Interior design drawings will likewise be prepared as part of the project drawings required by ER 1110-345-710.

a. **Concept Design.** During the concept design phase, those responsible for interior design will meet with representatives of the using activity and the building design team to determine the design concept. The design concept should meet the users functional, physical, and aesthetic needs as defined below.

(1) Functional. Achieve space planning layout which considers all furniture and equipment required to support the users operation. Related design issues include accessibility, privacy, safety, and health.

(2) Physical. Assure that environmental support systems such as electrical, lighting, mechanical,

information systems, and structure meet the users physical requirements.

(3) Aesthetic. Meet the users needs for aesthetic expression. Aesthetic needs are the physical interpretations of the users sociological and psychological needs. Design issues related to these needs include the use of light, color, and texture.

b. Final Design. Upon approval of the concept design, those responsible for design will develop the design concept in sufficient detail to assure successful execution. Building-related interior design is the detailed design and specification of building-related elements in the contract documents. Furniture-related interior design includes the detailed design and preparation of procurement documents.

8. **Responsibilities.**

a. Planning Phase.

(1) The using activity and installation will:

(a) Provide design and design review funds for furniture-related design, as indicated in paragraphs 10 and 11 of this regulation.

(b) Provide funds for procurement of furniture and equipment, and indicate these funds on DD Form 1391, as required by AR 415-15.

(c) Identify unique functional requirements related to the interior design of the facility.

(d) Identify existing furniture and equipment to be reused in addition to new furniture and equipment required.

(2) USACE MSC and district commands responsible for design will assist, on a reimbursable basis, in determining preliminary design requirements, indicated in paragraphs 8a(l)(c) and (d) above, during development of the planning and programming documents.

b. Design Phase.

(1) The designated representative of the using activity, having final approval authority for the project will review and approve interior design in a manner that is compatible with the provisions of AR 415-15.

(2) USACE MSC and district commands will:

(a) Accomplish interior design services within the scope and methods described herein, and as stated in the programming documents and design directives.

(b) Assure that interior design services are coordinated with the architectural design and reflect the requirements of the using activity.

(c) Verify and validate the technical adequacy and professional quality of the interior design.

c. Construction and Procurement Phases.

(1) The using activity and installation have the following responsibilities regarding interior design:

(a) Procurement of furniture and equipment for delivery to coincide as closely as possible with beneficial occupancy of the building.

(b) Tracking of procurement to assure timely receipt of required furniture and equipment.

(c) Warehousing of furniture and equipment until it is required for placement in the building.

(d) Delivery, assembly, and placement of furniture and furnishings at the project site.

(e) Verification that furniture and equipment received meet specifications requirements.

(f) Establishment of a move in date for the user. This date should be coordinated with the USACE MSC or district command to assure adequate time to furnish the facility after it is released for beneficial occupancy.

(2) USACE MSC and district commands have the following responsibilities:

(a) Assure that appropriate information is provided to the using activity to fully describe the interior design intentions, and the maintenance and operational aspects of the building.

(b) Establish beneficial occupancy date so that procurement of furniture and equipment by the using activity or by USACE may be scheduled for a timely delivery.

(3) When USACE provides furniture-related interior design services, the using activity or installation may request the following execution services from USACE on a reimbursable basis:

(a) Technical consultation during procurement, delivery and placement of furniture and equipment.

(b) Assistance in evaluating deviations from specified furniture and equipment to avoid installation of inferior or inappropriate furniture and equipment.

(c) Services in support of the using activities responsibilities indicated in paragraphs 8c(l)(a), (b), and (e) above including supervision of assembly and placement.

9. Methods of Accomplishment. Design and design review shall be accomplished by, or in consultation with, professional interior designers and architects. Qualification of designers will be based on completion of a recognized program of academic training in interior design and demonstrated interior design experience. When furniture-related services are provided, those services should be accomplished by the same designer providing the building-related services if possible. Methods for accomplishment of interior design may include in-house capability, Architect Engineer (A-E) contract, separate interior design service contract, or indefinite delivery contract for interior design services.

10. Funding. Project design funds will be used for building-related interior design services. Funds for furniture-related interior design services, including design reviews, will be provided separately by the using activity, except as indicated in paragraph 11 of this regulation.

11. Exception. Because the furniture-related interior design is critical to the operational effectiveness of living, administrative, and operational facilities, USACE encourages the use of furniture-related interior design services. USACE will provide furniture-related interior design services as an integral part of the building design without additional cost to the using activity for Category Codes 610, 310 & 171 and for DA Standard Design Packages with comprehensive interior designs. The using activity, however, must commit funds for the procurement of the furniture on the DD Form 1391 and request this additional service.

FOR THE COMMANDER:

WILLIAM D. BROWN
Colonel, Corps of Engineers
Chief of Staff

3 Appendices
APP A - References
APP B - Definitions
APP C - Government Sources of Supply

APPENDIX A

REFERENCES

1. Federal Acquisition Regulations (FAR).

a. Part 8, Required Sources of Supplies and Services.

b. Part 10, Specifications, Standards, and Other Purchase Descriptions.

2. Department of the Army.

a. AR 415-15, Military Construction, Army (MCA) Program Development.

b. AR 415-17, Cost Estimating for Military Programming.

3. U.S. Army Corps Of Engineers.

a. ER 1110-345-700, Engineering and Design, Design Analyses.

b. ER 1110-345-710, Engineering and Design, Drawings.

c. DG 1110-3-122, Design Guide for Interiors.

d. Architectural and Engineering Instructions (AEI), Design Criteria issued by HQUSACE (CEMP-EA). Additional copies are available from HQUSACE (CEMP-EA), 20 Massachusetts Ave., N.W., Washington, DC 20314-1000.

e. Architectural and Engineering Instructions (AEI), Medical Design Standards, issued by HQUSACE (CEMP-EM). Additional copies are available from HQUSACE (CEMP-EM), 20 Massachusetts Ave., N.W., Washington, DC 20314-1000.

APPENDIX B

DEFINITIONS

1. Building-related Interior Design. Design in support of installed building equipment and personal property fixed are an integral part of building-related interior design.

a. Installed Building Equipment. Construction elements of building-related interior design are defined as installed building equipment by Appendix H, Equipment Installation, of AR 415-15. They consist of items that are affixed or built into the facility and become an integral part of the facility. Installed building equipment is MILCON funded and is provided as part of the construction contract. Examples of installed building equipment associated with building-related interior design are listed in paragraph H-1 of AR 415-15.

b. Personal Property Fixed. Personal property fixed is defined by AR 415-15, Appendix H as capital equipment and other equipment of a movable nature that has been fixed in place or attached to real property, but may be severed or removed from buildings without destroying the usefulness of the facilities. Personal property fixed is normally funded as Other Procurement, Army (OPA), however, the utility support for this equipment is MILCON funded. Equipment installation may be funded by either fund source, and installation responsibilities must be defined in the contract documents.

c. Pre-wired Work Stations. Pre-wired work stations are a special area within personal property fixed.

(1) Physical Definition. The physical characteristics of a pre-wired work station should include posts, panels, partitions, wiring for electrical and information systems, task lighting, and partition hung components to support individual or group work efforts. Both panel to panel and post and panel systems are acceptable. Additional system components are ambient lighting and partition supported files. Pre-wired work stations do not include movable furniture and furnishings such as chairs, stand alone file cabinets, coat hooks, file trays, or similar accoutrements.

(2) Functional Definition. A pre-wired work station should, at a minimum, provide for the following functions:

(a) An acoustically treated enclosure defining the limits of an individual or a shared use work station.

(b) Adequate work surfaces to accommodate the individual's equipment, writing surface, and work layout surface.

(c) Storage space for individual files and supplies.

(d) Task lighting and electrical and information systems outlets to support the individual's equipment.

(3) Planning and Design. When pre-wired work stations are planned as an integral part of new construction or MILCON funded renovation they may be MILCON funded. To obtain MILCON funded pre-wired work stations, they must be justified and itemized on programming documents. Indicate number of work stations, unit cost and total cost as a line item under primary facility. Pre-wired work stations must also be itemized in Government estimates, and contractor pricing.

(4) Construction. MILCON funded pre-wired work stations will be provided by the construction contractor based on project drawings and specifications. When the contractor provides pre-wired work stations, the provisions of the FAR that apply to construction are applicable.

2. Furniture-related Interior Design. Elements associated with furniture-related interior design are defined as personal property moveable by Appendix H of AR 415-15. Elements associated with furniture-

related interior design consist of capital equipment and other equipment of a movable nature. Personal property is generally mission specific and can be separated from the building without destroying its use for another function. Personal property should be financed from Operations and Maintenance, Army (OMA) or Other Procurement, Army (OPA) funds, depending on the investment threshold.

a. Physical Definition. Items associated with furniture-related interior design include, but are not limited to, the following items:

(1) Furniture. Including Desks, Tables, Chairs, Sofas, Ergonomic Seating, Free Standing and Mobile Storage, Free Standing Acoustical Screens, and Modular and Automated Data Processing (ADP) Furniture.

(2) Furnishings. Including Art Work, Curtains, Draperies, and Rugs.

(3) Mission Equipment. Including Computers, ADP, Medical and Dental, Organs and Pianos, Simulators and Training Aids, Printing, Photographic, and Shop Equipment.

b. Planning and Design. Users should provide OMA or OPA funding for furniture, furnishings, equipment and for the associated installation costs. When furniture-related interior design is requested as part of a MILCON project, furniture and furnishings should be itemized on DD Form 1391 and Government estimates. DD Form 1391 should indicate furniture requirements in Section 13, and furniture cost itemized in Section 2G.

c. Procurement. Procurement of furniture and furnishings is considered Government procurement, and the provisions of FAR Parts 8 and 10 apply. See Appendix C for Government Sources of Supply. When systems furniture is provided as part of an OMA funded renovation project or a reconfiguration, it is to be procured as furniture.

PROCUREMENT PROCEDURES FOR FURNITURE

A. THE MISSION-COMPREHENSIVE INTERIOR DESIGN PACKAGE

B. PRIORITIES FOR USE OF GOVERNMENT SUPPLY SOURCES IN ACCORDANCE WITH FEDERAL ACQUISITION REGULATION 8.001.

- AGENCY INVENTORIES
- EXCESS FROM OTHER AGENCIES
- FEDERAL PRISON INDUSTRIES
- COMMITTEE FOR PURCHASE FROM THE BLIND AND OTHER SEVERELY HANDICAPPED
- GSA STOCK PROGRAMS (DEFENSE LOGISTICS AGENCY, DEPARTMENT OF VETERANS AFFAIRS, MILITARY INVENTORY CONTROL POINTS.
- MANDATORY FEDERAL SUPPLY SCHEDULES
- OPTIONAL USE OF FEDERAL SUPPLY SCHEDULES
- COMMERCIAL SOURCES

C. PROCURING FROM THE FEDERAL PRISON INDUSTRIES, REQUESTS FOR WAIVER.

D. GSA STOCK PROGRAMS

E. PROCUREMENT FROM FEDERAL SUPPLY SCHEDULES

- COMPETITION REQUIREMENTS
- MAXIMUM ORDER LIMITATIONS

F. PROCUREMENT FROM OPEN MARKET SOURCES

- UNDER $25,000, REQUEST FOR QUOTATIONS
- OVER $25,000, INVITATION FOR BID (IFB'S)

G. SPECIFICATIONS

H. COMMUNICATION

APPENDIX C

GOVERNMENT SOURCES OF SUPPLY

1. Priority of Sources. FAR, Part 8.001, indicates the order of preference for acquisition of supplies and services for the Federal Government.

2. Federal Prison Industries (FPI). FPI is a mandatory source of supply and should be considered in accordance with the requirements of FAR, Part 8.6. A furniture catalog and other product information are available from UNICOR, Federal Prisons Industries, Inc., 320 Ist Street, N.W., Washington, DC 20534.

3. General Services Administration (GSA). The use of Federal Supply Schedules is optional for Department of Defense agencies. GSA schedules do provide a wide selection of furniture and furnishing products. GSA Federal Supply Service source information is available through the Centralized Mailing Lists Services (CMLS), P.O. Box 6477, Fort Worth, TX 76115.

WAIVER REQUEST PROCEDURE

In accordance with Title 18, U.S.C., Sec. 4124(a) and Federal Acquisition Regulations subpart 8.6, Federal Prison Industries, Inc. (UNICOR) has a mandatory preference for supplies listed in its "Schedule of Products." When an ordering office wishes to purchase supplies listed in the "Schedule" from sources other than UNICOR, it will submit a request for waiver to the Customer Service Manager, Federal Prison Industries, Inc. (UNICOR). The request will be directed as follows:

Federal Prison Industries, Inc.
320 First St., N. W. (ACACIA)
Washington, DC 20534
Attn: Customer Service Manager

Telephone: 1-800-827-3168
Facsimile: 202-628-1597

Federal Prison Industries, Inc. (UNICOR) will consider requests for waivers based on documented disparities in price, inability to meet reasonable delivery dates, and disqualifying variations in function and "match." Requests will be considered in connection with the standards set out in its Waiver Policy. UNICOR has attempted to set out with the greatest degree of objectivity the standards that it applies in making decisions on waivers. While there must inevitably be some discretion exercised in these decisions, UNICOR will always give careful consideration to a customer's request. It is guided in all its decisions by its commitment to "Total Customer Satisfaction."

A. Requests shall contain the following information:

1. As complete a description as possible of the required items: e.g., National Stock Number, descriptive literature such as cuts, illustrations, drawings, and brochures that explain the characteristics and/or the construction. When applicable, e.g., items built to a military or Federal specification, a complete technical data package should be submitted.
2. Quantity required, price of preferred item and required delivery date.
3. In situations where the waiver request is based on functional differences, a comparison of the functional differences between the requested item and the "schedule" item should be provided identifying as a minimum:

   (a) inadequacies of the "schedule" item to perform the required functions; and
   (b) economic, or other advantages of the item requested.
4. Estimated annual usage or future need for similar items or a statement that the requirement is nonrecurring and no future need is anticipated. Indicate if this or similar items have previously been purchased from UNICOR.

B. UNICOR delivery schedules are consistent with delivery schedules for comparable items appearing on General Services Administration Federal Supply Schedules (FSS). Where schedules for comparable items do not exist, deliveries are consistent with good commercial practices. In the event that delivery times shorter than normally available from the FSS or commercial sources are required, certification, in writing from the contracting officer must be provided stating the reason for the shorter delivery requirement.

C. All factors are considered when a determination is made. This includes customer needs, current factory loading and future requirements. Each request is evaluated on its own merits. UNICOR policy does not permit blanket waivers but evaluates each request on a case-by-case basis considering, primarily, the needs of the customer.

D. Appeals to waiver denials can be made by forwarding reasons for the appeal to the Customer Service Manager by letter. Please note in your transmission that this is an appeal and reference the original waiver identification number. Appeals should be transmitted no later than 30 days after receipt of the original decision.

E. Every attempt will be made to respond to waiver requests and appeals within five (5) working days of receipt.

F. Ordering offices should not initiate action to acquire similar items from sources other than UNICOR until a request for waiver is approved.

To check the status of your request or to inquire about prices, delivery, order status or other concerns please call the UNICOR Customer Service Hotline:

1-800-827-3168

8.403 Types of Federal Supply Schedules.

8.403-1 Single-award schedules.

Single-award schedules cover contracts made with one supplier at a stated price for delivery to a geographic area as defined in the schedule. Most schedules contain all information necessary for placing orders. Some schedules specify that contractor catalogs must be used for additional ordering information to aid in the selection of fabrics, colors, and similar variables.

8.403-2 Multiple-award schedules.

Multiple-award schedules cover contracts made with more than one supplier for comparable supplies and services. Contracts are awarded to suppliers of the same generic types of items at varying prices for delivery within the same geographic area. Contractor catalogs and pricelists must be used with the schedules to prepare delivery orders. The catalogs and pricelists contain information such as item descriptions, prices and discounts, order limitations, and delivery.

8.403-3 New Item Introductory Schedule.

The New Item Introductory Schedule (NIIS) provides the means to introduce new or improved products into the Federal Supply System. The schedule lists brand names of products available from various suppliers. With the exception of GSA, the only mandatory user of this schedule, Federal agencies and agencies authorized by law or agreement may use the NIIS on an optional basis. Ordering offices must use contractor catalogs and pricelists with the schedule to prepare delivery orders.

8.403-4 International Federal Supply Schedule.

(a) The International Federal Supply Schedule (IFSS) provides sources of supply (supplies and services) at reasonable prices to U.S. Government activities located overseas. The use of the schedule is mandatory only on GSA.

(b) The schedule is divided into two sections. Section A includes those items which were awarded under sealed bid procedures, while Section B covers items that were awarded under negotiated procedures.

(c) Ordering offices need to review the information in the schedule and any applicable contractor's catalogs/price lists to ensure the proper placement of orders. Orders are placed directly with the contractors.

(d) Ordering offices shall forward copies of any orders (at the time the orders are issued) to the contracting office designated in the IFSS.

8.404 Using schedules.

(a) The planning, solicitation, and award phases of Federal Supply Schedules comply with FAR requirements. Consequently, contracting officers need not seek further competition, synopsize the solicitation or award, determine fair and reasonable pricing, or consider small business-small purchase set-aside procedures when placing an order under a Federal Supply Schedule.

(b) Before soliciting commercial sources, executive agencies shall determine if the required supplies or services, or similar supplies or services fulfilling the same purpose, are available from schedules (see FPMR 101-26.4). If so, the ordering office shall proceed in accordance with the procedure of 8.404-1 or 8.404-2, as appropriate.

(c) In the case of mandatory schedules, ordering offices shall not (1) solicit bids, proposals, quotations, or otherwise test the market solely for the purpose of seeking alternative sources to Federal Supply Schedules; or (2) request formal or informal quotations from Federal Supply Schedule contractors for the purpose of price comparisons.

8.404-1 Mandatory use. See Deviation per AL-91-7

Schedules identify executive agencies required to use them as mandatory sources of supply. The single-award schedule shall be used as a primary source and the multiple-award schedule as a secondary source. The following are exceptions to the mandatory-use requirement:

(a) *Urgent requirements.* When an ordering office requires supplies or services with a shorter delivery time than specified in the schedules, and time permits, the ordering office shall request the contractor by letter, telegram, mailgram, or telephone conversation (confirmed in writing) to state the best delivery time that can be met under the circumstances and subject to all other terms and conditions of the schedule contract. The contractor shall be instructed to reply to the inquiry within not more than 3 workdays after receipt, by the same or a faster communications medium than the one by which the inquiry was received. If the contractor offers accelerated delivery acceptable to the ordering office, orders shall obligate the contractor to make the shorter delivery under all other terms and conditions of the contract. When the contractor fails to reply, or the best delivery time does not meet the ordering office's requirements, use of the schedule is not mandatory.

(b) *Small requirements.* Dollar or quantity minimums are established for most schedules, below which ordering offices are not obligated to order and contractors are not obligated to accept orders. Ordering offices may submit orders below established minimums, subject to the contractor's acceptance. Once an order is accepted, the contractor is obligated to perform according to all the terms and conditions of the contract. Some schedules require the contractor to accept orders below the dollar or quantity minimum, but authorize the contractor to include a service charge up to a certain dollar amount. In these cases, the

8.405 Ordering office responsibilities.

Ordering offices shall place orders directly with contractors and shall perform contract administration on individual orders. Ordering offices should deal directly with contractors concerning contract performance (see 41 CFR 101-26.403-1).

✳ **8.405-1 Ordering from multiple-award schedules.**

When ordering from multiple award schedules, ordering offices shall use the procedures set forth below. When these procedures are followed, orders placed against schedules will result in the lowest overall cost alternative to meet the needs of the Government.

(a) Orders should be placed with the schedule contractor offering the lowest delivered price available. The ordering office shall review the schedule price lists that are reasonably available at the ordering office. Where the ordering office has available fewer than three price lists from current schedule contractors that offer the required items, the ordering activity shall obtain additional price lists from schedule contractors listed in the GSA schedule for the required items. The ordering office shall fully justify in the contract file orders for a line item exceeding the price reasonableness verification threshold at 13.106 placed at other than the lowest price identified in its review. Justification for ordering a higher priced item may be based on such considerations as—

(1) Delivery time in terms of actual need that cannot be met by a contractor offering a lower price;

(2) Specific or unusual requirements such as differences in performance characteristics;

(3) Compatibility with existing equipment or systems;

(4) Trade-in considerations that favor a higher priced item and produce the lowest net cost; and

(5) Special features of one item not provided by comparable items that are required in effective program performance.

(b) When two or more items at the same delivered price will meet an ordering office's needs, the ordering office shall give preference to the items of small business and/or labor surplus area concerns by following the order of priority in 14.407-6 for equal low bids.

(c) When a schedule lists both foreign and domestic items that will meet the ordering office's needs, the ordering office shall apply the procedures of Part 25, Foreign Acquisition.

(d) If an item available from a multiple-award schedule is ordered from the schedule contractor at a price lower than the schedule price, the ordering office shall notify the schedule contracting office within 10 days.

8.405-2 Order placement.

Ordering offices may use Optional Form 347, or an agency-prescribed form, to order items from schedules and shall place orders directly with the contractor within the limitations specified in each schedule. Orders shall include, at a minimum, the following information in addition to any information required by the schedule:

(a) Complete shipping and billing addresses.

(b) Contract number and date.

(c) Agency order number.

(d) F.o.b. delivery point; i.e., origin or destination.

(e) Discount terms.

(f) Delivery time.

(g) Special item number or national stock number.

(h) Brief, complete description of each item (when ordering by model number, features and options such as color, finish, and electrical characteristics, if available, must be specified).

(i) Quantity and any variation in quantity.

(j) Number of units.

(k) Unit price.

(l) Total price of order.

(m) Points of inspection and acceptance.

(n) Other pertinent data; e.g., delivery instructions or receiving hours and size-of-truck limitation.

(o) Marking requirements.

(p) Level of preservation, packaging, and packing.

8.405-3 Inspection and acceptance.

(a) Consignees shall inspect supplies at destination except when—

(1) The schedule provides for the schedule contracting agency to perform source inspection (in this case, the schedule will indicate that mandatory source inspection is required); or

(2) A schedule item is covered by a product description, and the ordering office determines that the schedule contracting agency's inspection assistance is needed (inspection assistance may be based on the ordering volume, the complexity of items, or the past performance of the supplier).

(b) When the schedule contracting agency performs the inspection, as specified in the schedule, the ordering office will provide two copies of the order specifying source inspection to the schedule contracting agency. The schedule contracting agency will notify the ordering office of acceptance or rejection of the supplies.

(c) Material inspected at source by the schedule contracting agency, and determined to conform with the product description of the schedule, shall not be reinspected for the same purpose. The consignee shall limit inspection to quantity and condition on receipt.

(d) Unless otherwise provided in the schedule, acceptance shall be conclusive except as regards latent defects, fraud, or such gross mistakes as amount to fraud.

8.405-4 Delinquent performance.

When the contractor fails to perform on the order, the

GSA National Furniture Center (NFC)
MULTIPLE AWARD SCHEDULE
Best Value Determination (BVD) Form

Schedule Purchases are subject to FAR 8.001 (See following page)

FAR 8.4 requires that you make a best value determination before placing Multiple Award Schedule (MAS) orders above the Micro-Purchase Threshold (MPT). Follow the guidelines below to make a best value determination.

*Orders under the MPT, currently $2,500 - place with any schedule contractor; this form is not required.
*Orders over the MPT, but under the Maximum Order (MO) - Review *GSA Advantage!* or at least three price lists.
*Orders over the MO, review additional price lists/use *GSA Advantage!* and seek a price reduction.

REQUISITION NUMBER: Requisition Number

Review at least three sources under the Federal Supply Schedule and list the contractors' names and prices below. Submit justification, if fewer than three sources were considered. You may attach the pricing or the contractors' quotes. It is important to have installation, design, and other services pricing included as separate line items in each quote. Please indicate the selected contractor by placing a check or "X" by the contractor's name.

	Contractor	Product $	Installation $	Design $	Other Service $ (Specify)	Total $
☐	Contractor	$0	$0	$0	$0	$0
☐						
☐						

Was the requirement in excess of the Maximum Order? Yes ☐ No ☐ N/A ☐ If yes, review additional sources / *GSA Advantage!* under the Federal Supply Schedule and list below (attach if desired).

	Contractor	Product $	Installation $	Design $	Other Service $ (Specify)	Total $
☐						
☐						

Indicate the factors, other than price, considered in your best value decision. If you have chosen other than the lowest-priced offer, include an explanation detailing what factors make the chosen vendor the best value (e.g., the trade-offs made). The amount and type of justification to support your best value decision should be commensurate with the $ and % difference being paid.

☐ Special features
☐ Past performance/experience
☐ Comfort/suitability of the item
☐ Technical Qualifications
☐ Trade-in considerations
☐ Maintenance availability
☐ Delivery time
☐ Warranty considerations
☐ Probable life of the item selected compared with that of a comparable item
☐ Environmental considerations - i.e. recycled content, naturally renewable ingredients, bio-based content, energy efficiency, etc. *(See Executive Order 13101)
☐ Other *(Please Specify):* Comments

When ordering through the NFC, please include this check sheet with your order. Please ensure that all information is complete. Fax orders to 703-305-6032 or call 703-305-7003 for more information. Please include all information requested below, in case additional information is required. Orders over $100,000 require a written Acquisition Plan, which will require extra information and time for NFC to complete before order issuance.

Signature:_____ **Title:**_____ **Date:**_____

Phone:_____ **Email:**_____

****Note: This form does not apply to services.**

For internal GSA use only:

Concur: _____ Concur: _____
Project Manager / Contract Specialist Date Contracting Officer Date

8.001 Priorities for use of Government supply sources.

(a) Except as required by 8.002, or as otherwise provided by law, agencies shall satisfy requirements for supplies and services from or through the sources and publications listed below in descending order of priority—

(1) Supplies.

(i) Agency inventories;
(ii) Excess from other agencies (see Subpart 8.1);
(iii) Federal Prison Industries, Inc. (see Subpart 8.6);
(iv) Products available from the Committee for Purchase From People Who Are Blind or Severely Disabled (see Subpart 8.7);
(v) Wholesale supply sources, such as stock programs of the General Services Administration (GSA) (see 41 CFR 101-26.3), the Defense Logistics Agency (see 41 CFR 101-26.6), the Department of Veterans Affairs (see 41 CFR 101-26.704), and military inventory control points;
(vi) Mandatory Federal Supply Schedules (see Subpart 8.4);
(vii) Optional use Federal Supply Schedules (see Subpart 8.4); and
(viii) Commercial sources (including educational and nonprofit institutions).

(2) Services.

(i) Services available from the Committee for Purchase From People Who Are Blind or Severely Disabled (see Subpart 8.7);
(ii) Mandatory Federal Supply Schedules (see Subpart 8.4);
(iii) Optional use Federal Supply Schedules (see Subpart 8.4); and
(iv) Federal Prison Industries, Inc. (see Subpart 8.6), or commercial sources (including educational and nonprofit institutions).

(b) Sources other than those listed in paragraph (a) of this section may be used as prescribed in 41CFR 101-26.301 and in an unusual and compelling urgency as prescribed in 6.302-2 and in 41 CFR 101-25.101-5.

(c) The statutory obligation for Government agencies to satisfy their requirements for supplies available from the Committee for Purchase From People Who Are Blind or Severely Disabled also applies when contractors purchase the supplies or services for Government use.

NOTE: Department of Defense procedural requirements when purchasing Federal Prison Industry products changed with passage of FY 2002 and 2003 DoD Appropriations Acts. Section 811 of the 2002 Act, as amended by Section 819 of the 2003 Act, follows in part: (For the full language of Sections 811 and 819, go to http://www.wifcon.com/dod811.htm and http://www.wifcon.com/hasc819.htm)

Federal Acquisition Regulation (FAR) 8.602 (b) says:

For purchases made by civilian agencies using fiscal year 2004 appropriated funds, and for all purchases made by DoD (Section 637 of Division F of Public Law 108-199, the Consolidated Appropriations Act, 2004; 10 U.S.C. 2410n), agencies shall-

(1) Before purchasing an item of supply listed in the FPI Schedule, conduct market research to determine whether the FPI item is comparable to supplies available from the private sector that best meet the Government's needs in terms of price, quality, and time of delivery. This is a unilateral determination made at the discretion of the contracting officer. The arbitration provisions of 18 U.S.C. 4124(b) do not apply.

(2) Prepare a written determination that includes supporting rationale explaining the assessment of price, quality, and time of delivery, based on the results of market research comparing the FPI item to supplies available from the private sector.

(3) If the FPI item is comparable, purchase the item from FPI following the ordering procedures at *http://www.unicor.gov*, unless a waiver is obtained in accordance with 8.604.

(4) If the FPI item is not comparable in one or more of the areas of price, quality, and time of delivery-

(i) Acquire the item using-

(A) Competitive procedures (*e.g.*, the procedures in 6.102, the set-aside procedures in Subpart 19.5, or competition conducted in accordance with Part 13); or

(B) The fair opportunity procedures in 16.505, if placing an order under a multiple award delivery-order contract;

(ii) Include FPI in the solicitation process and consider a timely offer from FPI for award in accordance with the requirements and evaluation factors in the solicitation; and

(iii) When using a multiple award schedule issued under the procedures in Subpart 8.4 or when making an award using the fair opportunity procedures in 16.505-

(A) Establish and communicate to FPI the requirements and evaluation factors that will be used as the basis for selecting a source, so that an offer from FPI can be evaluated on the same basis as the contract or schedule holder; and

(B) Consider a timely offer from FPI.

Gov. Works – Department of the Interior
Multiple Award Schedule
Market Research
and
Best Value Determination

FAR 8.4 tells us that you should make a best value determination before placing Multiple Award Schedule (MAS) orders above the micro-purchase limit (currently $2500). For orders over $2500, but under the Maximum Order (MO), simply review at least three price lists. For orders over the MO, review additional price lists, use GSA Advantage 1, and generally seek a reduced price from those contractors appearing to offer the best values. Orders under $2500 may be placed with any schedule contractor.

1. **Funding Doc # and / or REQUISITION NUMBER(s):**_____

2. **Brief Description of Item to be Procured:** _____

3. **Market Research:** What market research was conducted for this requirement? (Y **Check all that apply**)

☐ Reviewed Commercial Catalog	☐ Visited vendor showroom	☐ Reviewed Vendor Price List
☐ Reviewed GSA Advantage Pricing	☐ Reviewed Trade Journals	☐ Reviewed Periodicals
☐ Reviewed Thomas Register	☐ Reviewed Federal Supply Schedules	☐ Reviewed Consumer Price Index
☐ Reviewed internal vendor files/previous orders	☐ Reviewed Producer Price Index	☐ Reviewed internet sources

Other
(explain)_____

4. Did you review the required number of sources under the Federal Supply Schedule? **(circle one) YES or NO**

5. **List the contractor's names below:**

1.	**3.**	**5.**
2.	**4.**	**6.**

6. Did the government review **3** schedule holders price lists or did the government receive and review/evaluate 3 quotes? (Y **Check on**e)

___ review the schedule holders price list

___ received and review 3 quotes

GovWorks
FEDERAL ACQUISITION CENTER

7. Are you buying the lowest priced item? **(circle one) YES or NO**

8. **If you are NOT buying the lowest priced item,** indicate the factors listed below by (Y) checking those considered in your best value decision – more than one may apply: [these factors will be used in your trade-off summary narrative]

   - ☐ Price
   - ☐ Special features that are required in effective program performance that are not provided by a comparable item.
   - ☐ Trade-in considerations
   - ☐ Probable life of the item selected as compared with a comparable item
   - ☐ Warranty considerations
   - ☐ Maintenance availability
   - ☐ Past performance (i.e. experience)
   - ☐ Environmental and energy efficiency considerations
   - ☐ Comfort/suitability of the item
   - ☐ Delivery time
   - ☐ Your administrative costs
   - ☐ Training needed or provided
   - ☐ Technical qualifications
   - ☐ Compatibility with existing furniture / Products / Technology (circle appropriate category)
   - ☐ Other (*specify*):_____

9. Did the Government Request an additional discount from the vendors schedule price: **(circle one) YES or NO**

10. Did the vendor offer a discount **(circle one) YES or NO**

By placing an order against a schedule contract using the procedures in 8.405, the ordering activity has concluded that the order represents the best value (as defined in FAR 2.101) and results in the lowest overall cost alternative (considering price, special features, administrative costs, etc.) to meet the Government's needs. Although GSA has already negotiated fair and reasonable pricing, ordering activities may seek additional discounts before placing an order (see 8.405-4).

Trade-Off Analysis Summary Narrative Performed by COTR: [If lowest priced product is not chosen, what factors (other than price), and considerations have been used to determine the Best Value] **Provide brief explanation of why these factors are important.**

If you have considered the factors above to choose the item(s) which overall will provide the best value, then you have made a best value determination. When ordering based on best value determination, please include this checklist with your order.

Government COTR Print Name:_____

Government COTR Signature:_____ Date_____

GovWorks Contracting Officer Signature_____ Date_____

CHAPTER A-15
INTERIOR DESIGN

INDEX

CHAPTER A-15

INTERIOR DESIGN

15.1 **GENERAL**.

15.1.1 Scope. This chapter states criteria, requirements and guidance for interior design. Specific submittal requirements in this chapter supplement the requirements of Volume 1.

15.1.2 Quality. The objective of the COE is to obtain attractive facilities that are designed using sound technical knowledge and constructed using recognized, good industry practices, as well as being cost effective. The design and construction shall incorporate those characteristics which will provide facilities with present and continuing utility, durability and desirability, and which will be economical to maintain for the life of the structure. The design shall also be such as to provide a safe and healthy environment.

15.1.3 Sustainable Design. The COE has a policy to support the design, construction, operation and reuse/removal of the built environment (infrastructure and buildings) in an environmentally and energy efficient manner. Chapter 14, Sustainable Design, contains detailed requirements.

15.1.4 Multiple Buildings. Unless directed otherwise, when a project includes multiple buildings drawings shall be sequenced so that each building has a separate stand-alone set of drawings.

15.1.5 Site Adapting. When site adapting standard working drawings or using earlier designs at other locations, the design changes will generally be limited to exterior revisions to comply with the Installation Design Guide or other applicable local criteria, the selection of alternate interior materials when such changes are economically justified and to changes necessary for updating for conformance to current criteria.

15.1.6 Renovations. On renovation and modification projects provide separate plans showing demolition work required. Indicate items to be removed with dashed lines and hatched/poche'd areas to clearly show quantities and extent. Provide demolition notes to clarify scope of demolition work.

15.2 **APPLICABLE PUBLICATIONS**. The following publications form a part of this Manual to the extent indicated by the references thereto.

TI 800-01 Technical Instructions, Design Criteria, 20 Jul 1998

TI 802-01 Technical Instructions for Code 3 Design with Parametric Estimating, 15 May 1998

TI 800-03 Technical Requirements for Design-Build, 1 July 1998

UFAS Uniform Federal Accessibility Standards

ADAAG Americans with Disability Act Guidelines, Sep 1994

"Interior Design Requirements," Mar 2005, Savannah District COE

ER 1110-345-122, dated 22 Mar 99. INTERIOR DESIGN

"Interior Design Presentation Format," Feb 1999, Air Force Center for Environmental Excellence

MIL-HDBK-1008c Military Handbook, “Fire Protection for Facilities Engineering, Design and Construction, 10 June 1997

NFPA 101 National Fire Protection Association, “Life Safety Code”, current edition

Department of Defense Antiterrorism Standards for Buildings, 25 January 2002 Draft

15.3 **CODE 3 DESIGN SUBMITTAL REQUIREMENTS**.

15.3.1 Submittal. Submittal content and format shall be as described in TI 802-01, “Technical Instructions for Code 3 Design with Parametric Estimating”.

15.4 **CONCEPT/EARLY PRELIMINARY (35 PERCENT) DESIGN SUBMITTAL REQUIREMENTS**.

15.4.1 Structural Interior Design. Army Projects - Provide 35 percent submittal for Structural Interior Design on one large board presentation with the suggested finishes and color scheme per interior design requirements, Savannah District COE for wall and floor finishes.
Air Force Project – Provide 35 percent submittal in accordance with "Interior Design Presentation Format", Air Force.

15.4.2 Furniture/Fixtures and Equipment. When required by contract, provide 35 percent submittal for Furniture/Fixtures and Equipment in accordance with "Interior Design Presentation Format," Air Force or Savannah District “Interior Design Requirements” March 2005.

15.5 **SIXTY PERCENT SUBMITTAL REQUIREMENTS**.

15.5.1 General. This submittal consists of a limited number of drawings. It’s purpose is to check progress, functional layout and incorporation of concept review comments. Design does not stop at this submittal.

15.6 **PRELIMINARY (60 PERCENT) SUBMITTAL REQUIREMENTS**.

15.6.1 Implement concept submittal review comments.

15.6.2 Generic Furniture/Furnishings Plan. Submit generic furniture/furnishing plans for each floor showing the location and type of all furniture and furnishings as programmed by the project. When required by contract, indicate by schedule which items shall be furnished and/or installed by the Contractor and which shall be furnished and/or installed by the Government.

15.6.3 Signage. Provide interior signage plans and message schedule. Note, any special features such as changeable components. Note exterior signage locations and types on drawings. All exterior signage shall be in accordance with the "Installation Design Guide" for each respective Installation where applicable.

15.6.4 Structural Interior Design. Provide 60 percent submittal in accordance with applicable "Interior Design Presentation Format" Air Force, or “Interior Design Requirements”, Savannah District COE publication.

15.6.5 Furniture/Fixtures and Equipment Design. When required by contract, provide 60 percent submittal in accordance with applicable "Interior Design Presentation Format" Air Force, or “Interior Design Requirements”, Savannah District COE publication.

15.7 **FINAL (100 PERCENT) DESIGN SUBMITTAL REQUIREMENTS**.

15.7.1 Implement Concept and Preliminary review comments.

15.7.2 Structural Interior Design. Provide 100 percent submittal in accordance with applicable "Interior Design Presentation Format" Air Force, or “Interior Design Requirements”, Savannah District COE publication.

15.7.3 Furniture/Fixtures and Equipment. When required by contract, provide 100 percent submittal in accordance with applicable "Interior Design Presentation Format" publication.

15.8 **CORRECTED FINAL DESIGN SUBMITTAL REQUIREMENTS**.

15.8.1 The corrected final submittal is not to be considered a normal design level and will be provided in those cases in which the review comments require revision to the final submittal documents.

15.8.2 Implement final review submittal comments.

15.8.3 Verify consistency between plans, specifications and final corrections.

15.9 **REQUIREMENTS FOR PREPARATION OF DESIGN/BUILD RFP PACKAGES**.

15.9.1 General. Unless indicated otherwise, RFP shall be based upon “partial” design development as defined by TI 800-03 “Technical Instructions for Design-Build”.

15.10 **TECHNICAL REQUIREMENTS**.

15.10.1 General.

15.10.1.1 In addition to the Criteria contained in the following paragraphs, interior design shall comply with technical instructions. Materials and construction methods shall comply with the instructional notes inserted in the applicable guide specifications.

15.10.1.2 Structural Interior Design. Structural Interior Design (SID) is required for all projects unless specifically deleted by contract. In general, the SID provides samples of all interior and exterior finishes and signage.

15.10.1.3 Furniture/Fixtures and Equipment. Furniture/Fixtures and Equipment (FF&E) is provided only when required by contract. In general, the FF&E is an expansion of the SID that also addresses furniture and accessories. Furniture and accessories are purchased separate from the construction contract. When FF&E is requested the AE provides both the SID and FF&E required items.

15.10.1.4 Format and Content. The format and content of SID and FF&E shall be in accordance with "Interior Design Presentation Format", dated November 1996, by Air Force Center for Environmental Excellence for all Air Force projects or in accordance with "Interior Design Requirements", dated Mar 2005, by U.S. Army Corps of Engineers, Savannah District, for all other projects except as modified in this chapter. When a FF&E is required, it will be formatted in a separate binder as described in paragraph 4.3 Furnishings, Fixtures & Equipment Finder of "Interior Design Requirements".

15.10.1.5 Number of Copies. Six copies are required at each submittal unless indicated otherwise in the contract. Each copy is to have actual physical samples unless indicated otherwise in the contract.

15.10.2 Finishes.

15.10.2.1 Color Schedules. Color for color schedules (excluding prefinished items) for all Ft. Bragg, NC projects shall be selected from FED-STD 595b. For all other projects, the use of FED-STD 595b for color schedules (excluding prefinished items) is optional. FED-STD 595b Color Fan Deck, with color chips for desk use, and 75 x 175 mm (3-inch by 5-inch) color chips by sets, can be ordered from the following address. (Cost of $72.00)

Global Engineering Documents
15 Inverness Way East
Englewood, CO 80112-5704
1-800-854-7179

15.10.2.2 Finishes Disclaimer. Interior and exterior finishes may be specified by using manufacturer and product names. When this is done, a disclaimer must be placed on the drawings or in specification 09000 where this is done that states the following:
“The manufacturer's names and their products referenced indicate the color, texture, and pattern required for the materials listed. The products furnished shall meet the color, texture, and pattern indicated as well as the material quality and performance specified in the applicable technical section. The use of manufacturer's names and products do not preclude the use of other manufacturer's products of approved equal color, texture, and pattern as long as all requirements in the technical sections are met”.

15.10.3 Handicapped Accessibility. Where facilities for the handicapped are to be included in whole or in part, the design shall be in accordance with the American With Disabilities Act

Accessibility Guidelines (ADAAG), and Uniform Federal Accessibility Standards (UFAS). In case of conflict, the more stringent requirement shall be followed.

15.10.4 Structural Interior Design (SID)

15.10.4.1 Use of SID. The SID is used during design to review color and finish selections, prewired workstations, and signage design. It is used by Government personnel during construction in review of contractor submittals. The construction contractor does not receive the SID; it is an internal document only and not part of the construction contract documents. All information relating to building finishes, prewired workstations and signage must be in the contract documents. DO NOT REFERENCE THE SID IN THE CONTRACT DOCUMENTS.

15.10.4.2 Prewired Workstations. Prewired workstations (systems furniture) are included in the FF&E portion for certain projects. When this is the case, the construction contract documents will include prewired workstation design on I-Plates showing the location of the panels, worksurfaces, storage components, and other elements of the typical workstations. All coordination with electrical/telephone/computer outlets will be indicated. The workstation layouts are provided for review by the Government to verify coordination of all disciplines, and the purchase of the furniture is not part of the construction contract. A disclaimer will be indicated on the I-Plate. All finishes and purcurement information shall be included in the FF&E submittal.

15.10.4.3 Special Requirements. The interior designer shall identify items in the SID or FF&E that require attachment to the building either by cutting or fitting. The designer must prepare specifications and drawings for this service to be performed.

15.10.5 Comprehensive Interior Design.

15.10.5.1 Use of FF&E: The FF&E is used during design to review proposed finishes and furniture layouts coded to the furniture illustrations, furniture items, fabrics, colors, and furniture costs. It is used by the Government purchaser to procure the furniture. It is used by the User to direct installation to verify that furniture items received match what was ordered. It is used by Government personnel who administer the construction contract.

15.10.5.2 Scope. The FF&E is to include accessories such as lamps, clocks, framed artwork, artificial plants, trash receptacles, draperies, bedspreads in addition to furniture, finishes and signage.

15.10.5.3 Sources of Furniture. The Government is required to purchase furnishings from mandatory sources. This includes GSA Federal Supply Service and UNICOR, see paragraph 15.10.3.5. If the products offered by these sources do not meet the project requirements, then furnishings can be purchased from commercial vendors that have GSA contracts under GSA's Multiple Award Schedules. Many commercial furniture companies have GSA contracts with pre-negotiated prices. Only when none of these sources can meet the project requirements can open market items be purchased. When selecting furnishings, always review mandatory sources first, then GSA contract sources, then open market sources. When the interior designer determines FF&E items available on contract do not meet the functional requirements, or there is no current GSA resource, a waiver to use open market sources is required. The

designer shall write a waiver/justification letter with salient features of that item. The letter shall be addressed to:

Director of Furniture Commodity Center
GSA/FSS/FCNE
Crystal Mall Building #4, Room 1010
Washington, DC 20406

This letter shall be included on the FF&E binder attached to the applicable order form.

15.10.5.4 Quality of Products. The designer is to determine the project requirements and then select furnishings that meet these requirements. The products offered through mandatory government sources and GSA contracts represent a very wide range of quality and features. Being included in a GSA contract does not mean that a product meets any minimum quality standard. It is the responsibility of the designer to research products and determine their acceptability.

15.10.5.5 UNICOR Waiver. All furniture/furnishings shall be selected under the guidance of the National Defense Authorization Act – FY 2002, S1438, Title VIII, Subtitle B, Sec 811, Para 2410 which states UNICOR is no longer a mandatory source for furniture and a waiver is **not required from UNICOR** on items before selecting from the GSA Schedules. However, UNICOR shall be considered as a vendor to determine if UNICOR offers the "best value" product in terms of quality, price, and timeliness. If an UNICOR product is not the "best value", then GSA Schedules shall be used for selection of furniture/furnishings. Three GSA vendors shall be considered but only one selected for the prepared Illustration Order Form. A Best Value Determination Guideline Sheet shall be filled out for each vendor whose furniture has been specified and the sheet provided in the FF&E binder. (This is in addition to the requirement under 15.10.1.4 Format and Content) All furniture/furnishings shall be selected from GSA Schedules. The GSA web site is: www.gsa.gov. The UNICOR web site is: www.unicor.gov.

15.10.5.6 Customer's Own Material (COM). COM's are not permitted, except when selecting fabrics for Army barracks projects designed under the Interior Design Manual for Single Soldier Housing and submitted to the COE Huntsville District for procurement. A copy of the manual maybe ordered by contacting: www.hnd.usace.army.mil.

15.10.5.7 Personal Computers. Design of all workstations and office furniture, including executive offices, should assume the use of a personal computer and accommodate it with an articulating keyboard tray and corner work surface where feasible.

15.10.5.8 Medical Projects. For medical projects where furniture items are included on the equipment list provided by the Government, the FF&E location codes will be the JSN numbers from the equipment list.

End of Section